

AMERICAN

RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, *Editor.*

SATURDAY, SEPTEMBER 4, 1858.

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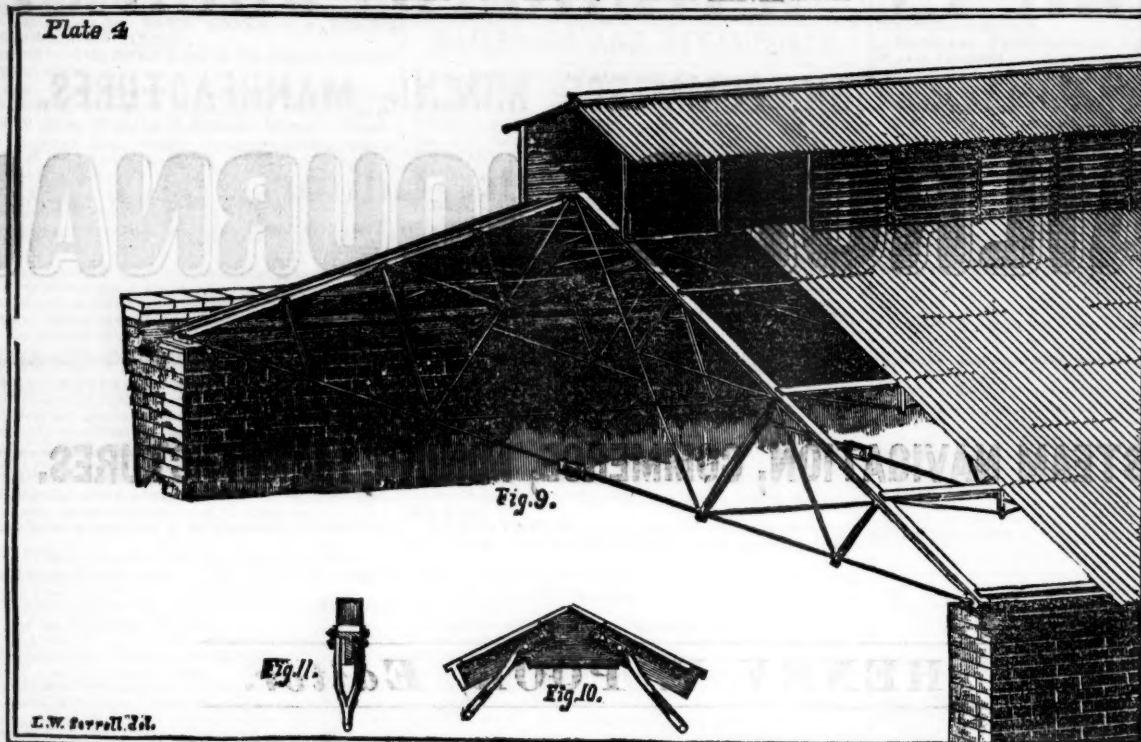
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Plate 4



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Fig. 6.

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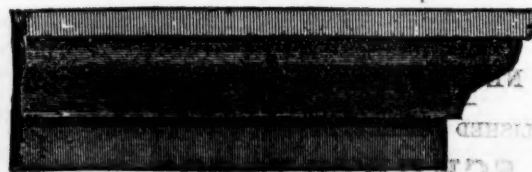
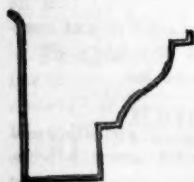
Fig. 7.

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Fig. 8.

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MARSHALL LEFFERTS & BROTHER,
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Messrs. ALGAR & STREET, No. 11 Clements Lane, Lombard Street, LONDON, are the authorised European Agents for the Journal.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO. No. 9 SPRUCE ST.

New York, Saturday, September 4, 1858.

English Railways and Their Management. (Editorial Correspondence of the R. R. JOURNAL.)

LONDON, August 14th, 1858.

The distinguishing feature of English railways compared with American, is the more costly character of their structures, and the finish given to these, as well as to the roads and everything pertaining to them. Give an English engineer his way, and he will use indestructible materials, and put them together in a manner that will defy the action of the elements and of time. The best station houses, consequently, are constructed of stone, iron and glass. The bridges are almost universally of stone or iron. The cuts and embankments are reduced to a uniform slope, and turfed. Instead of fences, the leading lines are enclosed by hedges, thrifty and well trimmed. On my trip from Liverpool to London on the first day of June, these were in full bloom. This line runs through one of the best and most highly cultivated portions of England, and the trip presented a striking contrast to that on most American railways, which generally seek the most uncultivated and poorest portions of the district they traverse, while on either side of them little is seen, save naked banks of earth covered often with charred remains of trunks and stumps of

trees, and a poor apology for a fence in the shape of posts connected by a few frail pieces of boards.

This manifest superiority of English railways is very agreeable to the eye, and in fact to the comfort of traveling; but it has been obtained (though not necessarily,) at a cost which compels a high rate of charges for transportation, and has rendered, and must continue to render, the investments in them unproductive. According to the Report of Capt. Galton to the Committee of the Privy Council of the Board of trade, for 1856, the total cost of the railways in England and Wales was £244,300,855. The total mileage was 6,153 miles; showing an average cost of £39,706, or nearly \$200,000, per mile. This sum exceeds five times the average cost of American railways. The total earnings of the above mileage was £19,314,999, which is at the rate of £3,191, or \$15,955 per mile; or about 7¾ per cent. gross on its cost. The net earnings equal very nearly 4 per cent. The total cost of operating the roads in 1857, was £9,369,234—leaving £9,945,755 as net earnings. Of this sum, £5,371,498 went for interest and dividends on preferred shares, leaving £4,574,257 as net earnings for dividends on £125,554,694 ordinary shares. Such is the pecuniary result for one of the most favorable years English railways have known; that of the present year being much less so, from causes operating upon English, in common with American, roads.

As an investment, therefore, English railroads have proved failures under conditions most favorable to success. England has a population of 360 to the square mile, one-half of which is engaged in manufactures and commerce. The number of passengers exceeds five times her entire population. The average rate of charges, for the accommodations, is high. The country is not unfavorable to the construction of roads. Labor and material are cheap—cheaper than in the United States. How is it then, that English railways have been so expensive, when they could be so cheaply constructed, and are so unremunerative in the face of enormous receipts? The explanation appears to me to be a simple one, and all the more important to be stated, for the reason that the excessive cost of roads both in England and America is often due to the same cause.

The parties who plan and execute and superin-

tend the railways of this country neither furnish the means for their construction, nor are they interested in their results. Whether they cost much or little, or prove productive or unproductive, is all the same to them. There is, consequently, no necessary relationship between the sum to be expended on a railway and the income it will produce. We readily see how such relationship is preserved in the mind of the manufacturer in the construction of an iron or a cotton mill, that success is a necessary sequence of his premises. We can also see that if a manufacturing establishment should be got up and conducted as are railways, it would inevitably break down. The English engineer who constructs a railway ignores all such considerations. He simply carries out idea of what a work should be. The more expensive and elaborate it is, the greater often will be the credit gained. The Britannia and Victoria Bridges will, very likely, immortalise their projectors, although every cent invested in them may be lost; the same may be said, to a certain extent, of the magnificent structures that are found upon almost every line of road in England. They are grand affairs, and are a great convenience to the public, purchased, however, at the cost of high charges for traveling, and loss of income to stockholders.

I think it may be laid down as an axiom that no enterprise can be successful unless the parties who superintend its execution and management have a direct interest in the results it is intended to produce. No person has achieved success in any elaborate undertaking who does not feel that it is due to the exercise of qualities of mind that he could not purchase at any ordinary rate of compensation—a capacity for the formation of an adequate plan, the proper choice of material and agents, the adaptation of every step and process to the end aimed at, the prompt appreciation and use of all improvements in machinery and in the modes of doing business, the execution of a rigid accountability, and the faculty of enforcing the most thorough discipline, and at the same time of commanding the respect of every subordinate. Such qualities are not usually to be had for a salary. In other words, the mind of the principal must become the soul of the enterprise, reaching and infusing life, intelligence and obedience into

every portion of it. This soul must not be a fragmentary nor disjointed one—giving one direction to the head, another to the hands, and another to the feet. Wherever there is a lack of unity there will be a lack of energy—of intelligence—of life—of accountability and subordination.

Now in most railway companies it is notorious many of the elements necessary to success do not exist. In this country, at least, the Chairmen, who are the chief executive officers of railways, do not pretend to a thorough understanding of the details of constructing or working a road. They have their own duties, which are doubtless important; but they may be unacquainted with those of every important department under them; there is, consequently, no connecting link between the different departments of service, and no intelligence to guide them to a common end. In such a case it will not be long before the *morale* necessary to a high state of discipline is completely broken. Instead of an unit, the different departments of service will often be arranged in hostile attitudes towards each other. Parties in influential positions, being left to themselves, soon come to regard their own interests as the chief objects of concern. Thus no class of subordinates, left to themselves, but will, in the end, lapse into indifference, unfaithfulness and extravagance. The result is, that the means of companies are wasted upon frivolous and useless objects, and upon extravagances of one kind or another,—and roads, with enormous receipts, do little more than pay expenses. The stockholders are loud and often violent in their denunciations, but they are entirely unintelligent and powerless, and would be no more successful were they placed in charge of their lines. So steadily have the rates of net earnings of some of the leading lines in this country been reduced, it seems probable that they will soon produce only running expenses.

American Railroads, of course suffer from similar causes, though in a much less degree. The more I see of English Roads, the more striking seems our advantage in the construction of these works. I think, as a general rule, we manage them much better. Whenever an Englishman spends money for another he is certain to take for his model, in his operations, the example of his government. The engineering department of a Railroad, consequently, resolves itself into miniature State, with all its gradations of rank, dignity and emolument. The chief, who exercise supreme command, receives his information through certain prescribed channels. His orders are transmitted through successive grades of subordinates, till at last they reach the person to whom they attach. To support the dignity of the chief, an immense salary is paid, while his duties are restricted to a very few subjects. The engineering of English Roads has, consequently, been enormously expensive. It being no part of the duty of an engineer to consider whether the expenditures he is making will bear any relation to the future revenue of the road, he spares no expenses, either upon the road or its structures. The station houses rival the finest structures in the country. In America, if we take the best, we adopt a much humbler standard than is found in this country. I make these remarks to show that English railroads necessarily lack the first great element of success—an adaptation of expenditure to a reason-

ably expected traffic. Similar errors in their management absorb a large portion even of their immense receipts.

This is an unfavorable picture, but I do not see any prospect of immediate improvement. The remedy cannot be applied till the disease is thoroughly understood. I have yet to find the man who can give an intelligible statement why English roads cost so much and pay so poorly. As much as we complain about the statements of American railroads, they are, on the whole, much better than those made by English companies. The latter state the capital account, and the receipts and expenditures, but neither in such detail as to convey much useful information. For instance, if a railway company has a dozen branches, it would be interesting to know how much each of these branches earns, as a means of testing the expediency of their construction. But such statements are never given. I do not remember of ever having seen this omission a subject of complaint, even. It is very desirable to know the mileage of the trains—the cost of fuel separate from the repairs of engines—the improvements that should be constantly going on upon a well managed road. But everything done on an English railway beyond a bald statement, showing the amount of capital account, and receipts and expenditures, is a sealed book. The first rudiments necessary to popular instruction and information upon the subject of railway management are withheld. The meagre and inadequate notions that Englishmen have upon these subjects, is best exemplified by the panacea which they all prescribe for bad management—*A statement of accounts*; just as if every company, especially when there is anything wrong, do not keep well-balanced books. How very inadequate must be their notions upon the subject, when the test of competent management is a few columns of figures, which any school-boy can make out, and which only serve to show how rapidly the railway is running down!

We hear constant complaints upon the extravagances and mismanagement of governments. But these are seldom remedied, while the tendency is steadily to greater extravagance and misconduct.—Why? Because those in power profit by their abuses, are not responsible for their acts, and can be inspired by no higher motive than what they regard their own interests. Change of rulers seldom or never brings reforms. However lofty the motive of a man on taking office, he soon sinks to the common level. He sees that one man can accomplish little when all his associates are indifferent or corrupt. A man serving a corporation or a State, has very feeble motive to effort, compared with one serving an individual, where the value of any act is immediately recognized and compensated, and where personal relations enforce a thorough and prompt performance of the duties of the subordinate. As it is with States, so is it with railroads. The remedy must be found, consequently, in some plan which shall secure a proper degree of accountability, and which shall graduate the compensation of each person employed according to the value of the service rendered. When this can be done we shall see an improvement in the management of railways: and until it is we must be content to see them go on in their old way.

Ohio and Mississippi Railroad.

At the annual meeting of the stockholders of the Ohio and Mississippi Railroad Company, on the 7th June, a committee was appointed to investigate and report upon the condition of the Company's affairs. This committee, consisting of Messrs. O. M. Mitchell, Lehmer, Keyes, Wright and Herron, have concluded their labors, and on the 25th ult., made a voluminous report, of which we give an abstract.

It is proper to state that the Directors afforded the committee every facility for conducting their examination.

The following was the information required:—

- 1st. Mr. Barlow's proposition of Jan. 23d, 1856.
- 2d. The contract between the O. & M. R. R. Co. and Messrs. Aspinwall & Co., of May 10, 1856.
3. The minutes of the Board from Jan. 23, 1856, to the present date, so far as these minutes in any involve the subject under consideration.
- 4th. A copy of the Seymour contract.
- 5th. The original plans of S. S. Post, Esq., Engineer, before the reduction made by him in June, 1855, for the building of the Ohio and Mississippi Railroad from the foot of Mill street to Vincennes.
- 6th. The actual plans upon which the road has been finished from the foot of Mill street to Vincennes.
- 7th. The engineer's estimate of the cost of work done or omitted in consequence of a variation between the original and actual plans.
- 8th. A complete list of all passenger depots, freight depots and other structures, with a general statement of their dimensions, erected on or before the 15th day of April, 1857.
- 9th. A list of all the sidings and turnouts laid and finished, with their localities and lengths, prior to ditto.
- 10th. A schedule exhibiting the rolling stock and machinery furnished by the contractors prior to ditto.
- 11th. A list of all structures which have been erected since 15th April, 1857, designating those which have been charged to the contractors, and those which have been charged to the company.
- 12th. A list of all sidings and turnouts, ditto.
- 13th. A schedule of all rolling stock and machinery, ditto.
- 14th. We wish to be furnished with the dates on which regular trains commenced running from Cincinnati to Vincennes—from Vincennes to Mitchell, and from Cincinnati to Brownstown.
- 15th. The reasons why the regular trains were not put upon the road on the 15th day of April, 1857.
- 16th. A copy of the minutes of the meeting of stockholders at which the road was accepted from the contractors as finished, on the 15th April, 1857.
- 17th. The time tables from April 15th, to present date.
- 18th. The monthly gross receipts from 15th April, 1857, to the last report, inclusive.
- 19th. The cost of ordinary repairs from Cincinnati to Seymour, also cost of ordinary repairs from Seymour to Vincennes—also the cost of extraordinary repairs on these two divisions.
- 20th. The cost of repairs ordinary and extraordinary, of rolling stock and machinery since 15th of April, 1857, designating what portion of this cost is due to repairs of rolling stock and machinery furnished by the contractors.
- 21st. A list of all officers, clerks, agents and employees, and the monthly pay rolls, with the salaries of each individual in the service of the Company, at any time since April 15th, '57.
- 22d. A copy of the report and accompanying papers made to the meeting of the stockholders, 7th June, inst., and submitted to this committee.

Prior to entering upon the investigation the Committee opened upon the following basis:—

No. 1. It is agreed that the associates are bound under their contract, at their own cost and charges, to construct, make and finish, and put in good and complete running order, the section of the road

from Seymour to Vincennes, according to the original plans of S. S. Post, Engineer, before the reduction made by him in June, 1855.

No. 2. The associates are bound, under their contract, to finish any unfinished work, according to the original plans, in the section, extending from foot of Mill street, in Cincinnati, to Seymour.

No. 3. The associates are bound, under their contract, to furnish all the necessary and proper depots, water stations, machine and other shops, sidings and turnouts, cattle guards, road and farm crossings, from foot of Mill street, in Cincinnati, to Vincennes.

No. 4. The associates are bound, under their contract, to equip the road with sufficient furniture and equipment, and of a quality fit and adapted to railroads.

No. 5. The associates are bound, under their contract, to surrender to the company the road in complete running order, and to deliver up and surrender the depots, stations, shops and offices, and all its equipments in good and complete running order.

No. 6. The associates are bound by their contract to pay the arrearages of interest on the 1st and 2nd mortgage bonds, and also all interest that accrues upon the same until the road is opened its entire length, and to settle the floating debt and all other claims against the company, so far as the same could be done in income bonds at par, and that they are bound to return the company an amount of income bonds equivalent at par to the unsettled floating debt and demands.

The Committee found that one source of misunderstanding between the associate contractors and stockholders, was in regard to the plan on which the road was to be built, and that the associate contractors had followed the plan, under the contract with H. C. Seymour and associates. The variations of cost between the original, and the actual plans, from Seymour to Vincennes, according to the statement of the Resident Engineer, amount to \$33,650. The Committee, therefore, find that the plans employed in constructing the Division from Seymour to Vincennes were the original plans under the Seymour contract, with slight variations, such as should have been made had the work been finished by the first contractors. Also that the bridge foundations, the masonry, the bridges erected and the superstructure embracing iron, ties, chairs, spikes, etc., are in accordance with the original plans.

As to the manner in which the plans were executed by the associates, the Report contains a letter from W. H. Clement, Superintendent, stating that "the road was in complete running order, according to the standard of sub-grade, or unballasted roads," in June, 1857; and another from Col. Talcott estimating that \$14,000 would finish the road-way and sidings. The Committee are satisfied that the associates performed their work in a faithful and substantial manner and in accordance with the original plans.

A large portion of the Report is devoted to a consideration of the difference in the interpretation of contracts, and the condition of the road from Mill street to Seymour. The Committee find that on the 15th April, 1857, there was a deficiency in sidings, turn-outs, etc., etc., along the entire track, and that the line from Cincinnati to Vincennes was not in good and complete order, as required by the contract. In regard to the rolling stock, the Committee are satisfied that the old machinery of the Company was not in the condition required by the contract. They differ with the Chief Engineer in their views of the demands of the contract in this respect. They, also, sup-

pose that the new machinery charged by the associates to the Company may be fairly demanded of them under the contract.

The following is the rolling stock, etc., surrendered to the Company by the contractors and accepted by the former, together with the road, by resolutions of the Directors which declared that the contract had been fully complied with:

33 locomotive engines,	
32 passenger cars,	
12 mail and baggage cars,	
416 box, platform and cattle cars,	The number of each kind to be designated by the Sup't.
40 four-wheeled gravel cars,	
40 hand truck cars,	
20 hand crank cars.	

The following are the conclusions of the Committee:—

The Committee, in closing this part of their report touching the surrender of the road as finished under the contract, feel themselves in a position of no small embarrassment. If their own interpretation of the contract be the true one, then, even at this date, all the demands of the contract have not been met. On the other hand, if the views of the Chief Engineer as to the meaning of this contract are to be received and adopted, then it might be possible to fix some day somewhere between April 15th and July 29th, 1857, on which the requisitions of the contract might be regarded as fully met by offsetting the work then remaining to be done by the extra work allowed by the Chief Engineer. If, however, our views are the true ones, it remains to suggest the basis of a scheme whereby the rights of the two contracting parties may be fully protected.

For this purpose if we assume any day, the 4th of May for example, as the point of departure, in this settlement, and if the amount of work remaining to be done under the contract should be fully and fairly established as well as the extra work at any time performed by the Associates, the difference in these two amounts would devolve as a debit on one or the other of the parties. In case the contractors should be the deficient party, then it would be proper to take into consideration not only the cash cost of the work remaining to be done, but the additional fact that the Associates received nominally a much larger sum in Bonds, than at par would pay for the work to be done, and some equitable arrangement should be made whereby there should be returned to the Company some just and fair amount in bonds, as an equivalent for the work the Contractors have failed to perform.

In case it shall be found that the road sustained a loss in its business from the want of proper sidings, turn-outs, depots, etc., such loss should be fairly compensated for by the associates in their settlement with the Company.

Again, in case it shall be found that the road was not finished, and could not have been properly opened by the Company, on the 4th of May, 1857, (one point of departure) for business of all kinds, then it would be unfair to release the associates from the payment of interest on the Bonds from that date, and they should be compelled to pay this interest up to the date at which the road could have been prepared to do all the business usual on such a road.

The result of this scheme will be this—that it will become necessary to fix the probable cost of the work remaining to be done, under the contract at a given time, and this sum added to the amount expended under the contract with the associates, up to that date, will give the entire amount of the contract, and will fix the proportion of Bonds to which the associates are entitled.

A settlement of the claims of the associates for the interest in these Bonds, and their claims for extra work done by them on the one hand, and for money expended by the Company in work properly included in the contract, on the other, will show the state of the accounts between the

Company and the associates at the present time.

We think we have thus suggested a basis for settlement, equitable to all interested, the details of which we are willing to leave to the proper parties.

In conclusion, we are not informed in any way, that the surrender of the road to the Company has ever been made in exact accordance with the demands of the contract. This matter must, of course, claim the early attention of the Board.

The Committee next consider the Floating Debt. The latest statement of the liabilities of the Company, prior to January, 1856, is contained in the circular to the stockholders, dated July 16, 1855, as follows:—

Floating Debt	\$492,531 98
Interest on bonded and other debt to July 1, 1856	344,500 00
Due contractors	156,186 34
	<hr/> \$993,218 32

In May, 1856, it was as follows:—
Settled by the associates in cash and Cincinnati and Construction Bonds, \$545,675 61
Settled by Income Scrip Certificates.. 180,647 14
Still unsettled..... 130,000 00

	<hr/> \$806,322 75
Settled by the Company the past year	17,468 97
	<hr/> \$823,791 72

The annual report contains the following statement of receipts and disbursements

RECEIPTS.	
Gross earnings for the year	\$776,916 19
Less diff. to May 1, 1858, between 9-16th and actual earnings, E. D.....	20,641 37
	<hr/> \$756,274 82
Less balances in the hands of agents and foreign roads, and mail money to be paid in regular course.....	\$43,167 76
Due from W. D.	58,436 15
	<hr/> 101,603 91
Actual receipts	<hr/> \$654,670 91

DISBURSEMENTS.	
Amount of operating expenses and repairs of Eastern Division, to May 1, 1858	\$465,227 06
Interest	5,962 84
Materials and extraordinary repairs	414,957 60
Real estate	13,523 85
	<hr/> \$899,670 75

LESS.	
For liabilities, supplies and business of the road	\$134,746 58
Due on pay rolls	59,851 06
Due for materials & stock claims	26,084 19
	<hr/> 220,681 91

\$678,988 84

The Committee after its organization received the following as a correction of the foregoing in the item of disbursements.

RECEIPTS.	
Gross earnings for the year	\$776,916 19
Less balances in hands of Agents and foreign roads and mail money to be paid in regular course	\$43,167 76
Due from W. D.	58,436 15
	<hr/> 101,603 91
	<hr/> \$875,312 28
DISBURSEMENTS.	
Amount of operating expenses and repairs of East. Division to May 17th,	

1858	\$488,381 37
Interest running account.....	5,962 37
Materials and extraordinary repairs..	407,549 60
Real estate	13,523 85
	\$895,367 16

LESS.

For liabilities, supplies and business of the road...	\$134,119 55
Due on pay rolls	59,851 06
Due for materials & stock claims.....	26,084 27
	220,054 88
	\$675,312 28

The committee disavow all responsibility for figures. Their report concludes as follows:

The Ohio and Miss. Railroad was opened for the transportation of passengers and freight on the 4th of May, '67. No through freight was transported until some time in July. Yet we find the following monthly earnings for May, June, July, August and September.

OHIO AND MISSISSIPPI R. R.

Gross Earnings of the Eastern Division.

1857.	Passengers.	Freight.	Total.
May.....	\$34,041 33	\$9,765 86	\$45,170 82
June.....	37,574 67	12,270 85	54,033 80
July.....	37,467 84	14,007 24	55,317 06
August....	46,562 12	20,645 22	71,880 79
September .	64,939 88	25,474 93	95,188 26
October....	57,749 82	22,889 94	85,580 84
November .	37,232 76	14,865 04	56,739 19
December..	31,477 89	21,904 88	58,224 75
1858.			
January....	25,821 40	19,545 26	50,140 11
February...	23,659 59	22,259 53	50,555 51
March	42,619 67	30,325 27	77,786 92
April	43,178 42	28,346 77	76,298 64

\$482,325 89	\$241,299 89	\$776,616 19
Less difference between actual gross business and 97-16 allowed in settlement with Western Division		20,641 37

Earnings of Eastern Division\$756,274 82

WHAT MIGHT HAVE BEEN.

In case no interruption in business had occurred, a largely increased receipt could have been fairly expected for the remaining months of the year 1857, and for one or two months in the year 1858.

Admitting the average receipts on this hypothesis to have been equal to the amount received in September, 1857, the gross receipts (or earnings) for the year would have reached \$1,100,000, with a road in good and complete order, with new machinery, with depots and other buildings, new and in good order, we are of the opinion that the road might have been operated for 55 per cent., or \$605,000. This would leave a net income of \$495,000, an amount more than sufficient to pay the interest on the First Mortgage and Construction Bonds.

Such a result, we presume, would have been highly satisfactory to all the parties interested in the road.

OF WHAT THE ROAD WAS CAPABLE.

We are of the opinion that the road was capable, under judicious management and with the average commercial prosperity of the country, of reaching the foregoing result at the close of its first business year. If this conclusion be just, there is every reason to induce those interested to harmonize in their action, to refer all matters in dispute to just, intelligent and honest arbitrators, and to combine heartily and earnestly in the prosecution of such plans as may be regarded best calculated to advance the interests of the bond and stockholders, and to develop to the highest possible degree the capabilities of a road three hundred and forty miles in length in its two Divisions, traversing a region of wonderful productiveness, and uniting the two great cities of the Mississippi Valley.

Journal of Railroad Law.

ROLLING STOCK LIABLE FOR TAXES.—LIEN OF THE STATE PARAMOUNT.

In the United States District Court, held at Cleveland, Ohio, the following decision has been made in the case of Mortgagees and Trustees of the Steubenville and Indiana Railroad *vs.* the Treasurer of Tuscarawas County, who seized the rolling stock for taxes. The Mortgagees asked for a perpetual injunction against the tax-gatherer on the ground that: "The Company was unable to pay the interest or principal of said bonds or to replace said locomotive and cars in case the same should be sold; that the use and possession of the same were absolutely necessary to the operation of the road by the Company; and that a sale of the property by the Treasurer would be of irreparable injury to the holders of said bonds."

Judge McLEAN held:

1. That the power of taxation is a sovereign political power, and a branch of the power of eminent domain. That if the manner of assessing and collecting taxes prescribed by the Legislature be not in conflict with the Constitution, and the officers charged with that duty conform, in their action, to the law, no court can restrain or interfere with these officers in the discharge of their duties.

2. That the lien of the State for taxes is paramount to all private rights vested under the Government. Individual liens cannot come into competition with the lien of the State for taxes.

3. That the lien of the State for taxes attaches to personal property upon the seizure of the same, as in cases of levy by marshals or sheriffs; and when such property is seized for taxes due the State, it is in the custody of the law under a paramount lien, which cannot be displaced by the liens of individuals upon the same property.

4. That the relation of the complainants to the Steubenville and Indiana Railroad Company is defined by the terms of the mortgage conveyances to them. That default in the payment of the interest or principal of the bonds secured by the mortgages did not vest the road and its equipment in the complainants as mortgagees, but authorized them to take possession of the road and run it as the agents of the Company, or to sell the road at public sale. That the ownership of the property could only be changed by a sale of it, and that no sale having taken place, the Company, and not the complainants, were the owners of the property. Temporary injunctions dissolved and bill dismissed at the cost of the complainants.

STEAMBOATS VS. BRIDGES.—OBSTRUCTION OF NAVIGATION.

We cut from a recent number of the Chicago *Tribune* the following report and decision is case of the owners of the steamboat 'Kossuth,' against the Illinois Central Railroad Company. Suit brought for damages occasioned to said boat by the bridge across the South Branch of Chicago river. The case was tried in the Circuit Court of Chicago:

John W. Hibbard *vs.* the Illinois Central Railroad Company.—This was an action of trespass on the case brought to recover damages alleged to have been sustained by reason of the obstruction of navigation in the South Branch of Chicago river, by the bridge of defendants across the said river, at Twelfth street. Defendants pleaded the general issue.

Plaintiff was owner and master of the tow-boat 'Kossuth,' plying between Bridgeport and the Lake. It was in evidence that defendants erected the bridge under an agreement with the city to keep it from being an obstruction to navigation; that the boat of plaintiff was detained at the bridge on various occasions, between June and November, 1857, from five minutes to an hour and a quarter each time, in consequence of trains necessarily stopping on the bridge, the shifting of cars from one side of the river to the other, etc.; that on each occasion the plaintiff notified the bridge-tender of his desire to pass, and was told by him that the bridge would not be opened in consequence of the cars upon it; that the time of the boat was worth from \$5 to \$8 per hour, etc. The cars causing the detention were some of them marked "I. C. R. R.," and others "C. B. & Q. R. R." There was also other testimony, tending to establish the fact that the bridge was constructed and maintained by the defendants. The following instructions were given by the Court:

"1. If the jury shall find from the evidence that the South Branch of the Chicago river is a public navigable highway, and that the bridge in question was erected by the defendants, or that they were occupying and maintaining the same, either solely or in common with other railroad companies, at the time of the alleged grievances, and that the plaintiff, while engaged with his steam-tug in the actual prosecution of his business, was interrupted in the navigation of said river by reason of vexatious delays and obstructions, occasioned by the negligence of the defendants in the opening of said bridge, and did thereby directly, necessarily and unavoidably sustain special damage by reason of such obstructions, then the plaintiff is entitled to recover such direct damages as he may have sustained thereby.

"2. And if the jury shall find from the evidence that the defendants neither constructed or maintained the bridge in question, either solely or in common with others, then the defendant is entitled to a verdict."

The jury found a verdict for the plaintiff, assessing the damages at \$125.

STATUTORY LIABILITY OF SHIP OWNERS.

At the late session of the Supreme Court of Michigan, at Lansing, a decision was rendered which is of considerable importance to the commercial and marine interests of the lakes. The case was that of the American Transportation Co., plaintiffs, in error, *vs.* Moore, Foote & Co., defendants, in error. A quantity of goods belonging to Moore, Foote & Co., were placed on board the propeller Spaulding, belonging to the Transportation Co., for transportation from Buffalo to Detroit. The goods were burned on the propeller while in transit, and Moore, Foote & Co. brought suit for their value and damages. The Transportation Co. urged in defense, that by the terms of the contract the owners of the goods were to bear all risks of fire, and also that as the loss occurred upon a lake vessel engaged in commerce within the jurisdiction of Congress, the owners of the vessel were exempt from liability under the act of Congress of 1851, passed for the purpose of limiting the liability of ship owners. The Court below charged the jury, upon the question of liability under the act of Congress of 1851, that lake commerce did not come within the intent of the statute, but must be considered as "inland" within the exception of the act. The Court was also asked to charge in several other particulars involving law points, to which charges exceptions were taken. Judgment was rendered for the plaintiffs, and the case was taken to the Supreme Court on a writ of error and exceptions.

Judge CAMPBELL delivered the unanimous

opinion of the Court, holding that lake navigation is not inland within the meaning of the act of Congress of 1851, exempting ship owners from liabilities for losses by fire occurring without their default. Judge Campbell says that "lake commerce being in fact maritime in its nature, and having been thus recognized as such by all the departments of the Federal Government, and regulated as such by Congress, we cannot hesitate so to consider it in construing the act in question. And being satisfied that the inland navigation mentioned in the act cannot properly comprehend the maritime commerce of the lakes, we are of the opinion that the plaintiff in error is not liable for the property destroyed by fire on the propeller Spaulding, such fire not having been caused by design or negligence; and that the Court below erred in charging the jury that the navigation of the lakes was inland navigation within the meaning of the act of Congress."

THE RIGHT TO USE PUBLIC HIGHWAYS FOR RAILROADS.

The *Legal Journal*, published at Pittsburg, Pa., contains a decision of the Nisi Prius of Philadelphia, on a motion for a special injunction against the Second and Third street railroad, argued June 26th. This decision lays down the governing principle with respect to the public right to the use of highways which has been a subject of discussion recently. The public highways belong to the people, and through the Legislature the people may devote them to such uses as the public convenience requires. Their authority is supreme, and they do not have to ask any one's consent to such use as the public may desire the highways to be appropriated. To build a railroad without authority of law, would be a nuisance which a Court of Equity could prevent, but when the Legislature gives its sanction, it is no longer a nuisance, and no equity can interfere.

[A decision on the same subject as the above has been recently rendered by the Court of Appeals, in this State, which is in some degree confirmatory of the above. We shall give the opinion, or an abstract of it, next week.]

Railroads in Tennessee.

On yesterday, says the *Eagle and Enquirer*, we had a conversation with Col. Payne, State Commissioner of roads, and learned the following facts with regard to the extension of railroads in Tennessee.

He says that there will be more iron laid in Tennessee, this year, than has ever been laid in any one year.

	Miles.
The East Tennessee and Virginia road has laid	27
The Cleveland and Chattanooga will lay	30
In East Tennessee	67
Winchester and Alabama	15
Tennessee and Alabama	15
Louisville and Nashville	30
Edgfield and Kentucky	30
In Middle Tennessee	90
Mobile and Ohio will lay	60
Memphis and Ohio do.	25
In West Tennessee	85
Total in the State	232

Col. Payne says, too, that there will be more road-bed prepared for the iron this year than ever before in the same time. This is a very remarkable condition of things; and it shows the astonishing resources of our people, who, despite the

extraordinary pressure of the past twelve months, have been steadily pushing on so large an addition of road improvement.

An additional item of interest which we gather from Col. Payne, is, that there are now in active operation in this State, 670 miles of railroad; that, by the first of January next, there will be 875 miles running; and that by the first of January, 1860, the number of miles in active operation will be 1,146. Col. Payne's entire familiarity with the progress and condition of roads in this State, renders the above statement perfectly reliable; and it is with great pleasure we lay it before our readers.—*Knoxville Register*, Aug. 19.

Commerce in China.

(From a Correspondent of the Times.)

PECHELLI GULF, June 3.

From the politics of this question, which I merely touch upon to put you in possession of the true state of affairs, let me turn to a more grateful subject—the river Peiho and Tien-sin city.

We find that the bar of hard mud at the entrance is the only impediment to navigation that exists in the Peiho, and it, I fancy, could easily be deepened by means of a dredging machine. At present only vessels of eleven feet draught may cross; the bar is above 1,200 yards long, and then eighteen or twenty feet is found at low water to a point five miles above Taku; thence to Tien-sin twelve feet may always be counted upon, for, although here and there there is less at low water, there is considerably more at high water. The river between the sea and Tien-sin preserves an almost uniform breadth, equal to the Thames at Putney; the current is not at this season more than $1\frac{1}{2}$ knots per hour, but it holds a great deal of fine mud in solution. The river is remarkably winding, and the turning points very acute, but that it is easy of ascent the best proof I can give is that the Coromandel, 200 odd feet long, is now at Tien-sin. The banks of the stream are remarkably well kept, and the track-paths, which are continuous on either side, in excellent condition, as they well need be to do the work of the thousands of Shanghai and Shantung junks we found loading and unloading throughout the whole distance from Taku to Tien-sin. The river in no case up to the great canal requires artificial embankments; indeed, the level of the river was considerably below that of the adjacent plains, and when at its highest, only overflows the marshes and salines below Taku. Its bed is generally a stiff, tenacious clay, and neither rock nor stone has been seen since we entered the Peiho. Tien-sin is a great disappointment. The city itself, situated on the angle between the canal and the river, is only a square of about one mile on each face—a collection of mean one-storied houses, intersected at right angles by two good streets; the rest a miserably collection of lanes and hovels; walls in perfect ruins. Along the space marked with houses in Macartney's chart, houses and salt stores still exist; but such a miserable collection of mud hovels! only relieved here and there by some wealthy yamun. There is notwithstanding this squalor and poverty, undoubted proofs of an immense business being done here in grain and merchandise for the interior, and I fancy Tien-sin is like many places in Russia—a town where once a year merchants meet to buy, sell and exchange, and then depart, leaving it but little the richer for the convenience it has afforded. My own impression is that, as a place of import, it cannot be too highly estimated. The 200,000 tons of rice now drawn from the South we can import far cheaper and better from Akyab or Siam. It is not from choice that we see tens of thousands of emaciated coolies sitting on the banks of the Peiho ready to drag our boats anywhere for a handful of Shantung beans, fit only for cattle, or black rice which has fermented in the bilge water of a Shanghai junk; and if Chili has nothing but sycee silver and copper coin to give in return for our grain and pulse, so much the better that we, who pour in money to the southward for teas, should be able to extract it here for something else than opium.

In the Straits of Mia-ton our large vessels can

unload into lorchas, or better still, I fancy that a secure anchorage may yet be found in the Shalintien Shoals, close to the Peiho, where unloading may go on incessantly. The navigation from the latitude of the Yang-tse-Kiang to here is the simplest a shipmaster will find. East of the Straits of Sunda any fool with a lead line and an anchor may come in safety to the entrance of the Peiho, and doubtless in good time, when the hydrographer of the Navy shall deem it worth while sacrificing the survey of home ports to these, which are less known, we shall find some secure harbors not only here but elsewhere. Whence come the awarms of junks which cover daily the seas between the Shantung promontory, the Corea, and the head of the Gulf of Leotong.

The imports here at first will mainly consist of rice, wheat, oil cake and flour; cottons of a coarse description and cheap, like American drills; woolen cloth and flannel canlets, hardware and glass, besides articles of luxury, whether for eating, wearing, or domestic purposes; the exports, metals, wool, hides, flax, tallow, and wood fit for spars or building. The avidity with which any European articles are sought for is most amusing. I have been offered fabulous quantities of cash for a half-worn pair of Hong Kong boots now on my feet.

Valuation of Boston and Taxation.

The valuation of the real and personal estate of Boston, as just made by the city assessors, is as follows:—

Amount of real estate\$153,578,700
Do. personal estate 101,142,700

Total.....\$254,721,400

The valuation of 1857 was:

Real estate\$149,713,800
Personal estate 108,898,100

Total.....\$258,611,900

There has been an increase of real estate during the past year of \$3,864,900, and a decrease in personal estate of \$7,255,400.

The rate of taxation has been fixed at \$8.60 per \$1,000. Last year it was \$9.30 per \$1,000.

The poll tax this year will be \$2.10. Heretofore it has been \$1.50.

Ohio Life Insurance and Trust Company.

One year ago last Monday, the failure of this institution was announced, and then was initiated a crisis which is without a parallel in the history of modern commerce. The directors, first as such, and then as assignees, have not yet, they say, been able to discover the extent of the failure, and as far as the public know, have not yet learned whether the top or the bottom fell out of the concern. There certainly ought to be a law to reach such cases, as it is perfectly outrageous to think that the property of thousands can be thus taken from them, without a way to compel the directors or assignees, or whatever they may be designated, to tell what has been done with it. The agent of Bell, Grant & Co., of London, Eng., has been here the past month, we understand, with the intention of entering suit against the directors with the view of making them individually liable for the debts of the institution, and it is thought he will succeed.—*Cinc. P. Current*, Aug. 26.

Sandusky, Dayton, and Cincinnati R. R.

Mr. Oran Follett, of Sandusky, had been elected to the Presidency of the Mad River Railroad, vice Mr. J. P. Yelverton, resigned. The election for Directors for the ensuing year was held at Sandusky, on the 25th ult. The following gentlemen constitute the present Board:

David A. Neal, Salem Mass.; Mark Healy, Boston; Elisha C. Litchfield, New York; Elijah P. Williams, Buffalo, N. Y.; N. P. Stewart, Detroit, Mich.; S. C. Parkhurst Cincinnati; Seymour A. Winslow, Urbana Ohio; Ralph E. Runkle, West Liberty, O.; John P. Yelverton, Sandusky; Oran Follett, Sandusky.

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Length of Road	Capital paid in.	Debt	Total cost of road & equip't.	Gross Earnings for last official year.	Net Earnings for do.	Dividend for do.	Price of Shares.
Atlantic & St. Lawrence	149	2,494,900	3,482,000	6,594,829	576,483	83,368	6	---
Androscog. & Kennebec	55	487,909	1,535,305	2,210,947	159,518	---	---	---
Kennebec & Portland	72	1,107,526	1,763,738	2,871,264	213,255	---	---	---
Portland, Saco, & Portland	61	1,396,400	---	1,396,373	253,717	120,909	6	9 1/2
Boston, Concord, & Montreal	93	1,809,032	1,104,588	2,848,977	327,767	174,025	16	---
Cheshire	32	2,085,925	899,813	3,179,687	355,629	113,077	4	5
Concord	35	1,500,000	8,242	1,412,576	317,050	125,664	4	15
Northern, N. H.	82	3,088,400	406,286	3,068,400	365,840	168,996	4	15
Don't & Passumpsic Riv.	90	1,000,000	800,000	1,784,146	177,588	73,401	---	---
Androscog. & Worcester	117	2,233,876	4,168,369	4,575,398	384,125	77,201	---	---
Vt. Central & Vt. & Canada	122	6,350,000	5,233,299	9,752,053	808,328	160,570	---	---
Boston and Lowell	25	1,830,000	438,920	2,412,251	435,863	171,382	6	80
Boston and Maine	74	4,076,974	50,000	4,226,281	849,560	357,477	6	1
Boston and N. Y. Central	74	2,240,300	1,678,589	3,912,144	---	---	---	---
Boston and Providence	43	3,160,000	239,720	3,334,458	534,176	245,194	6	87
Boston and Worcester	44	4,500,000	599,974	4,844,779	1,019,149	388,513	6	91
Cape Cod	47	681,690	291,007	1,031,625	122,960	39,899	---	---
Connecticut River	50	1,691,110	276,772	1,801,244	267,710	65,096	3	44
Eastern, Mass.	60	2,583,400	2,441,373	5,082,607	616,156	272,479	---	---
Fitchburg	67	3,540,000	100,000	3,872,821	668,974	250,833	6	84
N. Bedford and Taunton	21	600,000	---	641,596	168,925	27,827	6	92
N. Bedford and Fall River	77	3,016,100	260,100	3,382,949	683,357	305,140	6	---
Old Colony and Fall River	69	2,232,541	1,019,148	3,241,975	240,133	62,287	---	---
Vermont and Mass.	156	6,150,000	6,839,090	10,495,905	2,117,992	889,763	8	104
Western, Mass.	46	1,141,000	205,505	1,351,271	216,888	82,720	4	82
Worcester and Nashua	43	1,510,020	300,000	1,781,048	344,773	156,044	7	44
Providence and Worcester	72	2,350,000	944,000	3,294,000	789,065	372,807	10	110
Hartford and N. Haven	122	1,941,340	2,375,274	4,202,516	367,895	168,162	---	---
Hartford, Prov. and Fitchburg	74	2,000,000	423,685	2,423,685	318,475	109,344	---	---
Housatonic	67	1,031,800	524,244	1,580,723	237,416	114,237	---	---
Wangunk	62	3,000,000	2,882,071	5,519,580	854,995	254,569	3	---
N. York and N. Haven	60	738,258	761,462	1,450,318	88,007	30,318	---	---
N. Haven and N. London	60	510,500	1,052,000	1,603,280	120,571	61,544	---	---
N. London, W. & Palmer	66	2,122,300	903,519	2,998,071	265,417	44,547	---	---
Norwich and Worcester	32	439,005	1,625,098	1,840,095	117,716	9,904	---	---
Albany Northern	35	463,330	317,359	974,323	In progr.	---	---	---
Black River and Utica	100	1,487,374	1,501,183	2,819,096	172,476	68,333	---	---
Buffalo, Corn. and N. Y.	92	798,439	2,537,849	3,401,868	288,392	31,896	---	---
Buffalo and N. Y. City	69	1,300,000	1,040,000	2,494,364	679,750	355,768	10	---
Buffalo and St. Line	47	434,111	922,393	1,275,796	174,089	69,506	---	---
Canandaigua and Elmira	9	1,315,000	2,279,854	3,495,832	---	---	---	---
Canandaigua & Niagara Falls	35	697,000	506,689	1,187,662	135,433	48,649	---	---
Cayuga & Susquehanna	144	3,758,466	9,250,362	12,737,898	1,902,828	688,580	28 1/2	---
Hudson River	9	3,000,000	647,193	2,555,986	325,719	56,196	---	---
Long Island	556	24,136,681	14,807,510	30,515,816	8,027,251	3,573,738	8	77 1/2
New York Central	464	11,000,000	28,081,483	34,469,324	6,742,607	1,454,032	---	---
New York and Erie	134	5,717,100	4,822,498	8,758,203	1,040,393	324,891	---	---
New York and Harlem	118	1,633,022	4,406,874	5,470,714	1,030,138	185,754	---	---
Northern, N. Y.	35	303,180	213,025	752,030	149,373	78,754	---	---
Oswego and Syracuse	29	467,200	294,189	749,683	In progr.	---	---	---
Pottsdam and Watertown	25	610,000	140,000	896,423	241,149	82,600	7	---
Rensselaer & Saratoga	48	500,000	395,600	719,909	71,909	21,089	---	---
Saratoga and Whitehall	80	768,399	1,578,804	2,272,777	169,484	25,503	---	---
Syracuse & Binghamton	27	437,830	737,079	1,109,822	166,363	55,184	---	---
Troy and Boston	97	1,500,000	700,979	2,200,500	440,290	162,037	3 1/2	63
Watertown and Rome	64	1,000,000	619,000	2,444,000	243,393	114,682	---	---
Belvidere Delaware	94	3,000,000	11,407,200	8,794,096	1,640,787	594,114	12	98 1/2
Camden and Albany	60	3,485,000	1,550,854	1,738,171	117,889	45,542	---	---
Camden and Atlantic	30	3,485,000	788,844	3,660,017	911,617	534,951	10	125
New Jersey	30	2,000,000	3,692,828	5,621,829	682,940	387,193	---	---
New Jersey Central	53	1,187,895	340,000	1,684,127	397,765	101,542	3 1/2	---
Morris and Essex	44	1,637,867	342,564	1,988,317	Recently opened.	---	---	---
Albany Valley	63	1,700,000	1,940,000	3,640,000	219,253	62,450	---	---
Cataw. W. & Erie	62	1,440,400	51,103	1,266,675	188,134	583	---	---
Cumberland Valley	170	3,292,772	619,451	813,761	815,768	41,139	6	24
Del. Lack. & Western	29	600,000	150,000	750,000	---	---	10	---
Erie and North East	33	600,000	1,200,000	1,348,812	89,835	63,335	---	---
Elmira & Sunbury	28	2,606,100	546,222	3,407,651	353,301	255,930	9	---
Little Schuylkill	32	3,051,865	2,820,165	4,774,104	248,784	136,507	---	---
North Penn.	268	13,206,625	15,690,524	27,266,982	4,856,670	1,854,927	6	85
Pennsylvania	96	11,275,541	9,423,560	19,263,720	3,065,523	1,583,776	10	49 1/2
Phil. and Reading	88	5,900,000	2,673,450	5,668,369	1,143,853	378,876	4	31 1/2
Phil. W. and Baltimore	88	899,350	376,800	1,274,150	206,981	113,443	---	---
Phil. Germ. & Norristown	148	1,748,052	1,613,403	2,285,606	45,687	4,318	---	---
Fitch and Conneautville	299	3,676,030	875,293	3,238,293	106,880	40,500	---	---
Sunbury and Erie	78	1,500,000	1,990,000	3,484,454	274,554	157,458	---	---
Williamsport and Elmira	382	12,118,902	10,968,804	24,413,919	6,116,991	1,566,214	3	57 1/2
Baltimore and Ohio	41	1,666,000	25,000	1,660,000	869,229	124,981	6	---
Washington Branch	44	2,260,000	5,491,319	7,288,540	781,698	238,284	---	---
Northern Central, Md.	105	498,305	6,719,229	3,322,150	Recently opened.	---	---	---
North Western Va.	97	1,457,000	1,006,494	2,023,086	275,791	138,832	---	---
Alexandria and Lynchburg	128	1,371,700	1,489,012	3,387,085	355,270	107,210	---	---
South Side	92	1,221,277	290,000	1,416,695	In progr.	142,626	---	---
Pittsburg & Steubenville	176	3,000,988	1,479,318	4,681,681	508,413	270,048	---	---
Virginia Central	204	3,471,677	3,373,896	6,589,779	298,478	138,350	---	---
Virginia and Tennessee	140	1,977,399	323,407	3,437,655	461,918	255,386	---	---
Richmond and Danville	32	834,600	230,866	1,205,412	156,908	85,180	6	---
Richmond & Petersburg	130	1,000,000	730,506	1,708,169	232,172	120,212	7	---
Richd. Fred. & Potomac	63	769,000	158,502	1,009,115	263,874	123,661	4	---
Petersburg and Roanoke	228	4,000,000	---	4,235,000	Recently opened.	---	---	---
North Carolina	171	1,123,888	1,215,900	2,379,168	462,578	240,938	---	---
Wilmington & Manchester	97	973,300	126,200	1,240,241	906,917	108,641	2 1/2	---
Wilmington and Gaston	101	1,201,000	390,000	1,719,045	240,722	121,555	6	---
Charlotte & S. Carol.	105	1,293,464	968,800	1,990,060	200,774	---	---	---
Greene & Columbia	102	886,650	1,814,900	1,907,378	99,404	38,272	---	---
North Carolina	203	4,179,205	3,318,595	7,588,037	1,449,808	740,435	9	---
South Carolina	87	1,000,000	199,000	1,171,707	317,770	191,892	8	---
Atlanta and La Grange	211	4,166,000	476,896	4,174,491	1,038,572	323,171	7 1/2	---
Georgia	191	3,725,910	191,787	7,850,000	1,23,648	682,310	10	---
Georgia Central	122	1,438,600	96,000	1,500,000	293,261	132,627	8	---
Jackson and Western	118	414,924	692,884	2,444,723	890,584	115,171	7 1/2	---
Monterey & W. Point	---	---	---	---	---	---	---	---

NAME OF COMPANY.	Length of Road	Capital paid in.	Debt	Total cost of road & equip't.	Gross Earnings for last official year.	Net Earnings for do.	Dividend for do.	Price of Shares.
Brunswick and Florida, Ga.	30	151,887	463,648	538,649	In progr.	---	---	---
South Western	92	1,399,100	441,292					

Railroad Bonds.

NAMES
OF
COMPANIES.
(The following quotations are as
interest.)

Amount of Loan.	Description of Bonds.	Rate Int.	Interest pay- able.	Where payable.	Due.	Offered.	Asked.
Alabama and Tennessee River	\$833,000 1st mortgage, convertible	7	1st Jan. 1st July	N.Y.	1872	85	
Buffalo and State Line	500,000 Do. convertible	7	April, October		1866	90	85
Belleville and Indiana	600,000 Do. convertible	7	Jan'y, July		1866	90	85
Do. do.	200,000 Real estate, convertible	7	Jan'y, July		1865		
Do. do.	200,000 Income, guar. Cl. Col. & Cin.	7	Feb'y, August		1861-64	63	75
Central Ohio	1,250,000 1st mort. conv. east. sec.	7	March, Sept.		1865	50	55
Do. do.	800,000 2d do. convertible	7	20 Jan. 20 July		1867	85	75
Cincinnati, Hamilton, and Dayton	500,000 1st mortgage, convertible	7	Jan'y, July		1860		
Do. do.	465,000 2d do. do.	7	May, Novemb.		1868		
Cincinnati and Marietta	2,500,000 1st mortgage, conv. till 1892	7	Jan'y, July		1862	90	95
Cincinnati, Wilmington, and Zanesville	1,300,000 Do. convertible	7	May, Novemb.		1861	90	95
Cleveland, Painesville, and Ashtabula	567,000 Do. convertible	7	Feb'y, August		1860	60	70
Cleveland and Pittsburgh	800,000 Do. convertible	7	March, Sept.		1873	75	80
Do. do.	1,200,000 Do. on Branches	7	Feb'y, August		1862-72	60	60
Cleveland and Toledo	525,000 Do. conv. till 1857	7	April, October		1862-72	60	60
Chicago and Mississippi	800,000 Do. convertible	7	April, October		1867	62 1/2	65
Do. do.	1,300,000 Do. do.	6	April, October		1863	75	80
Covington and Lexington	400,000 2d mortgage, convertible	7	March, Sept.		1875	75	80
Do. do.	1,000,000 1st mortgage, do.	7	April, October		1861		
Delaware, Lackawanna, and Western	1,500,000 Do. not convertible	7	March, Sept.		1873		72 1/2
Florida Freehold	1,500,000 Do. conv. till 1863	7	Jan'y, July		1863	90 1/2	97 1/2
Fort Wayne and Chicago	1,250,000 Do. convertible	7	Feb'y, August		1875	91	91 1/2
Galena and Chicago	2,000,000 2d mortgage, do.	7	May, Novemb.		1868		
Do. do.	2,000,000 1st mortgage, do.	10	April, October		1863	87 1/2	93
Great Western (Illinois)	1,000,000 Do. convertible	10	10 April, 10 Oct.		1873		
Green Bay, Milwaukee, and Chicago	400,000 Do. 2d sec. conv.	7	April, October		1866	86	86
Jeffersonville	300,000 Do. convertible	7	May, Novemb.		1860-61	70	82 1/2
Indiana Central	600,000 Do. do.	7	Jan'y, July		1866		82 1/2
Indianapolis and Bellefontaine	450,000 Do. conv. till 1857	7	March, Sept.		1874		76
Indianapolis & Cin'ti (for Lawb. & U.M.)	500,000 1st mort. 1st sec. conv. till 1864	8	May, Novemb.		1865	66 1/2	67
La Crosse and Milwaukee	950,000 1st mortgage, conv. till 1859	7	Feb'y, August		1863	80	81
Lake Erie, Wabash, and St. Louis	3,400,000 Do. convert.	6	2 May, 2 Nov.	Bost.	1860	96	97
Little Miami	1,500,000 No mortgage, convertible	9	April, October		1869	93	95
Michigan Central	1,000,000 Do. do.	8	March, Sept.		1862		83
Do. do.	600,000 1st mort. 1st sec. conv. till 1857	8	Jan'y, July	N.Y.	1863		83
Milwaukee and Mississippi	600,000 Do. 2d do. 1858	8	April, October		1877	75	78
Do. do.	650,000 Do. 3d do. 1860	8	June, Decemb.		1868-62		
Do. do.	1,250,000 Do. 1st section	10	April, October		1864-75		90
New Albany and Salem	500,000 Do. oth. sec. conv. till 1858	8	May, Novemb.		1873		85
Do. do.	2,325,000 1st mortgage, convertible	7	Jan'y, July		1865-66		70
Northern Cross	1,000,000 Do. do.	7	Feb'y, August		1872		60
Ohio and Indiana	1,750,000 Do. do.	7	Jan'y, July		1872		60
Ohio and Pennsylvania	2,000,000 Income, convertible	6	April, October	Phila.	1880	98 1/2	99 1/2
Do. do.	5,000,000 1st mortgage, conv. till 1860	8	Jan'y, July	N.Y.	1861		75
Pennsylvania (Central)	680,000 Do. conv. sink'g f'd	8	Feb'y, August	N.Y.	1861		
Racine and Mississippi	300,000 Do. 1st sec. conv.	7	May, Novemb.		1865		
Scioto and Hocking Valley	1,500,000 Do. convertible	7	Jan'y, July		1866		
Steubenville and Indiana	600,000 Do. do.	7	March, Sept.		1866		
Terre Haute and Indianapolis	1,000,000 Do. do.	7	Feb'y, August		1862-77	64	68
Terre Haute and Alton	1,000,000 Do. do.	7	Feb'y, August		1862-77	64	68

NAMES
OF
COMPANIES.
(The following quotations include
the accrued interest.)

Amount of Loan.	Description of Bonds.	Rate Int.	Interest pay- able.	Where payable.	Due.	Offered.	Asked.
Baltimore and Ohio	1,128,500 Mortgage	6	Jan'y, July	Balt.	1875	84	85 1/2
Chicago and Rock Island	2,000,000 1st mortgage, conv. till 1858	7	10 Jan. 10 July	N.Y.	1870	95	96
Erie Railroad	3,000,000 1st mortgage	7	May, Novemb.		1867	98	100
Do. do.	4,000,000 2d mortgage, convertible	7	March, Sept.		1859	89 1/2	90
Do. do.	6,000,000 3d mortgage	7	March, Sept.		1863	75	76 1/2
Do. do.	6,000,000 4th mortgage, not convertible	7	April, October		1860	56	58
Do. do.	4,000,000 1st mort. conv. Sink Fund, \$420,000	7	Feb'y, August		1875	31	31 1/2
Do. do.	4,351,000 Convertible, Inscription	7	Feb'y, August		1871	30	31
Do. do.	3,500,000 Convertible	7	Feb'y, August		1862	30 1/2	32
Do. do.	4,000,000 1st mortgage, Inscription	7	Jan'y, July		1869-70	101	102
Hudson River	2,000,000 2d do. convertible	7	Feb'y, August		1860	83 1/2	89 1/2
Do. do.	3,000,000 3d do. convertible	7	16 June, 16 Dec.		1870	67	68 1/2
Do. do.	17,000,000 Mortgage, inconvertible	7	May, Novemb.		1875	90 1/2	91 1/2
Illinois Central	3,000,000 1st mortgage, 345,000 acrs.-priv. 7 shar's	7	April, October		1860	87	89
Do. (Free Land)	1,000,000 1st mortgage, inconvertible	7	March, Sept.		1860	85	90
Michigan Southern	1,800,000 Do. do.	7	May, Novemb.		1861-72	84	85 1/2
New York and Harlem	750,000 No mortgage, do.	7	June, Decemb.		1865-66	90	94
New York and New Haven	1,000,000 1st mortgage, do.	6	Jan'y, July		1873	84	90
New Haven and Hartford	1,000,000 Do. do.	7	Feb'y, August		1861	67	68
Northern Indiana	1,500,000 Do. do.	7	Feb'y, August		1865	80 1/2	90
Do. Gothen Branch	8,287,000 No mortgage, do.	6	May, Novemb.		1864	100	101
New York Central	3,000,000 No mortgage conv. from June 57-59	7	15 June, 15 Dec.		1866	113	
Do. do.	900,000 Convertible till 1855	7	Jan'y, July		1866	90	91
Panama, 1st issue	1,478,000 Do. till 1858	7	Jan'y, July	Phila.	1860		
Do. 2d do.	1,573,000 Mortgage, inconvertible	6	Jan'y, July		1870	76	
Reading	1,300,000 Do. convertible	6	Jan'y, July		1886	66 1/2	68
Do. do.	3,469,000 Do. inconvertible	6	April, October		1886		

CITY SECURITIES.

Int't payable.	Off'd.	Asked.
New York, 6 per ct. 1858-60	97	97 1/2
Do. 6 do. 1870-75	96	98
Do. 6 do. 1883	102 1/2	102 1/2
Do. 6 do. 1890-98	91	93
Albany, 6 per ct. coup. 1871-81	98	100
Albany, 6 per ct. coup. 1879-90	97 1/2	97 1/2
Baltimore, 6 per ct. coup. 1879-90	100	100
Boston, 6 per ct. coup. Long X	100	101
Brooklyn, 6 per ct. coup. W.W. 1879 X	80	90
Cleveland, 7 per ct. coup. 1873-77 X	85	86
Cincinnati, 6 per ct. coup. 1873-77 X	85	86
Chicago, 6 per ct. coup. 1880 X	100	102
Do. 7 per ct. W.W. 1873-78 X	100	100
Detroit, 7 per ct. coup. Long X	92	92
Dubuque, 6 per ct. coup. 1880-83 X	67 1/2	69
Galena, 6 per ct. coup. 1882 X	64	65
Memphis, 6 per ct. coup. 1882 X	64	65

CITY SECURITIES.

Int't payable.	Off'd.	Asked.
Milwaukee, 7 per ct. coup. X		70
New Orleans, 6 per ct. cp. R.R. X		73
N. Orleans, 6 per ct. cp. municip. X		80
Philadelphia, 6 per ct. 1876-98 X		97 1/2
Pittsburgh, 6 per ct. coup. X		65
Quincy, 8 per ct. coup. 1868 X		70
Racine, 7 per ct. coup. 1873 X		60
Rochester, 6 per ct. coup. Long X		80
St. Louis, 6 per ct. coup. X		84
Do. do. Municipal X		40
Sacramento, 10 p. ct. cp. 1862-74 X		60
S. Francisco, 10 p. ct. cp. 1865, pay. N.Y. X		90
Do. 10 p. ct. cp. 1871 X		59
Do. 10 p. ct. pay. N.Y. 1875 X		62 1/2
Do. 6 per ct. coup. X		50
Wheeling, 6 per ct. coup. X		51 1/2
Do. 6 p. ct. cp. Mun. 1874 X		
Zanesville, 7 do. X		

Extract from De Coppet & Co.'s Money Cir-
cular for the European Steamer of Septem-
ber 1st.

[TRANSLATED.]

New York, Tuesday, Aug. 31, 1858.

The telegraph news from Europe advising an advantageous settlement of the Chinese question, and the absence of the advance anticipated in rates of interest as the season would progress, have favorably affected our stock market during the week which has elapsed since the date of our last advices. The rise has been principally on railroad shares, and has been accompanied by an increase of business. For State Stocks the market has been irregular, there being an advance on some and others a decline, the changes, however, on the whole have been unimportant. State Stocks—Missouri 6s have risen 1/2, and Tennessee 6s 1/2 per cent. There have been sales of Louisiana 6s at 93; Ohio 6s of 1886 at 107, and of Michigan 6s of 1878 at 108. Indiana 5s have declined 1/2, Virginia 6s 1/2, and California 7s 1/2 per cent. The new Government 5s sell at 103 1/2, interest to begin on the 1st January next. City and County Bonds—The principal transactions have been in Louisville Railroad 6s; Memphis 6s, guaranteed by State of Tennessee; St. Louis Railroad 6s, and Brooklyn 6s, at prices indicated by our quotations. Some St. County 7s, due in 1862, were sold at 86. Railroad Bonds have been less inactive. Illinois Central 7s have risen 1/2, do. Freehold, 1 per cent. There have been sales of Erie 2d mortgage at 90; 4th mortgage at 56; Convertible 7s of 1871 at 30 1/2; Galena and Chicago 2d Mortgage at 91; Hudson River 2nd Mortgage at 89; Michigan Central 8s at 96 1/2; Michigan Southern Sinking Fund at 88; Hannibal and St. Joseph's 7s at 60; Delaware, Lackawanna and Western 1st Mortgage Bonds at 78, and Lake Erie, Wabash and Western 1st Mortgage Bonds at 68. Railroad shares have advanced. The rise is 3 1/2 on N.Y. Central; 1 on Reading; 2 on Chicago and Rock Island; 1 on Cleveland and Toledo; 1 on Erie; 1 1/2 on Galena and Chicago; 1 1/2 on Michigan Southern; 1 on Michigan Central; 1 on Milwaukee and Mississippi; and 1 per cent. on Panama shares. The heaviest transactions have been in the two first-named. Cleveland, Columbus and Cincinnati shares have been sold at 91 1/2 to 91 1/4. Money remains superabundant. Short loans, on call, 3 1/2 to 4; indorsed paper, 4 1/2 per cent., according to maturity. Exchange on Europe: Sterling has been inactive demand, and the rate has stiffened. The bulk of business has been done at 109 1/4 to 109 1/2. France remains at 5.12 to 5.11 1/2.

DE COPPET & CO.

Ohio and Mississippi Railroad.

The troubles and perplexities which have beset the Ohio and Mississippi Railroad, from its very commencement, appear to be no nearer to a conclusion than ever. In addition to their quarrel with the Associate contractors, the stockholders have commenced to quarrel among themselves, as to the proper mode of coming to some practical settlement of differences. The Report, of the Committee, an abstract of which is given elsewhere, was drawn up by Professor Mitchell, and on its presentation to the stockholders, he proposed the following resolution:—

Resolved, That we, the Stockholders now present, after hearing the report just read, accord with their Committee in the view taken by them of the origin of existing difficulties, and entirely acquit the Associates of any intention to avoid the just responsibility of their contract.

This proved to be a bone of contention, and after considerable warm discussion, and the reading of the letter from Mr. Aspinwall and associates, Prof. Mitchell resigned his position on the Committee, declaring that he "would now leave this poor, miserable, wretched railroad to its fate," and the meeting adjourned.

The letter referred to is as follows:—

NEW YORK, August 20, 1858.

W. H. Clement, Esq., Vice President of O. & M. R. R. Co.:

SIR—Upon our solicitation, we have kindly been permitted to peruse the report agreed upon by the Committee appointed under the resolution passed at the Stockholders meeting in June last, and we regard the submission of this communication to the ensuing meeting of the Stockholders, simultaneously with the presentation of the report, as appropriate.

The relations in which we stand to this report, as contractors, would ordinarily suggest our presence during its consideration, but our pecuniary interest in the road induces us to abstain from all participation in the meeting, and from immediate comments upon the report, from a conviction that at this time, either a controversial discussion or a critical review of the report would be highly prejudicial to the interests of all parties, and perhaps destructive to the road itself.

To prevent, however, any erroneous inferences as to our views, from our action as above indicated, yet without any intention to impugn the motives, acts or judgment of the Committee, we distinctly declare the data, and hypothesis, upon which the report is constructed, manifestly both incomplete and fallacious, and hence we dissent from and protest against the statements, inferences and conclusions of the report generally, and particularly wherein it directly or by implication charges upon us any material non-compliance with the contract, or upon the Engineer (Col. Talcott) any material misapprehension of, or departure from, its terms and intentions.

The good faith with which we have performed (and in many instances exceeded) our obligations to the company, should be a sufficient answer to the imputations which the suggestions of the report, as to the performance and acceptance of the work, obviously involve.

From higher than pecuniary considerations, we cannot consent to consider that action debatable. If, therefore, it shall be approved by the stockholders, there can then remain no issues between us and the company, except as to the adjustment of accounts and demands.

Without further allusion to the report, it becomes us in this connection to say:

That up to this date our demands and accounts against the company for final settlement have not even been presented.

That we shall not intentionally demand one dollar which we shall not consider equitably our due.

That we have appointed a committee, with full authority on our part to effect a full and final settlement with the Company.

That the Directors, on the part of the company, have likewise appointed a committee for the same purpose—no member of which has any interest in the contract.

We have no doubt that an equitable adjustment will be agreed upon by these committees, but should the meeting of stockholders think otherwise, and desire to appoint and authorize an additional committee from their number, we should not apprehend difficulty therefrom, and therefore will interpose no objections—merely reserving all our legal rights and positions as they now are.

Respectfully, your obedient servants,

W. H. ASPINWALL.

SAM'L COMSTOCK,

EDWARD LEARNED,

EDWIN BARTLETT,

HENRY CHAUNCEY.

In behalf of Wm. H. Aspinwall and others, Contractors.

Detroit and Milwaukee R. R.

The bridge of the railroad company over Grand River is 1800 feet in length, or about one fourth of a mile, and it costs about \$16,000 it is almost completed, and the entire route from Grand Rapids to Grand Haven, will be ready for the use of trains by the sixth of September.

That will be another happy event for Milwaukee. We shall then be an important stopping place on one of the best thoroughfares from the East to the

great northwest. We shall also be the radiating point, as it were, for business, of all Wisconsin, a part of Iowa, all Minnesota, and a part of Michigan. Let old fogies talk as they will, this city cannot help but receive a new and wonderful impetus, under the influence of the completion of both the La Crosse and this Detroit road. As soon as the latter is completed, there will be two good boats put upon our Lake, to run in connection with trains on both roads.—*Milwaukee Wisconsin.*

American Railroad Journal.

Saturday, September 4, 1858.

A New Motive Power—Paine's Hygro-Caloric Engine.

For a number of months, Mr. H. M. Paine, of Worcester, Mass., has been actively engaged in experiments on a motive power which should reduce the expense and waste of the ordinary Steam Engine. We have seen occasional notices of these experiments, but have heretofore been unable to obtain any definite reliable information in regard to them. Mr. Paine is now in this city, on his way to Europe, where he intends to bring his invention before the leading scientific men.

He has constructed three engines which work with as much success as could be anticipated. One of them has a cylinder of $2\frac{3}{4}$ inches diameter and 5 inches stroke; another, a cylinder of 8 inches diameter and 6 inches stroke, and the third of 12 inches diameter and 10 inches stroke. There has been no difficulty in maintaining upon them all a pressure of 50 pounds per square inch, under a temperature of 350° (F.) in the heater,—the cylinder never ranging above 200° .

During Mr. Paine's stay in this city, the smallest engine has been exhibited to a large number of gentlemen, including many of our most competent mechanical engineers, among whom there seemed to be but one expression of opinion, and that highly favorable. The heater—as that portion of the machine which takes the place of the boiler in a steam engine is called—is a hollow copper ribbon with a capacity one-fifth that of the cylinder. This ribbon forms a concentric coil of about $3\frac{1}{2}$ inches diameter. Over this is placed a jacket, and the heat is applied beneath. Attached to the frame of the engine, but remote from the fire, is a metal tank, equal in capacity to the cylinder, about half filled with cold water. Atmospheric air is brought into contact with the water under such conditions as to absorb moisture without taking the form of spray, or inducing mechanical subdivision. The air thus prepared passes into the heater, where it undergoes instant expansion, producing the force above mentioned. In any other respect, the engine does not differ materially from an ordinary steam engine. The fly wheel has a diameter of 12 inches, and weighs seven pounds. With all its parts cold, an alcohol taper, consuming one gill per hour, placed under the heater, generates, in 10 seconds, a force sufficient to obtain and maintain 600 revolutions a minute. This result is so far beyond any produced by the evaporation of water through the ordinary action of caloric, that it is needless to institute a comparison.

This invention is due to the discovery by Mr. Paine, substantiated by a long series of experiments, that common air or any of the gases, when subjected to moisture, in certain proportionate quantities, becomes highly expansive under low temperatures. An analogy is presented in the

low temperature required to fuse certain combinations of metals, which, separated, are susceptible only to great heat. If the proportion of these combinations of metals varies, the temperature under which they fuse varies also. The result is the same when the amount of moisture, or air, is subjected to a change of relative quality. Mr. Paine's experiments, so far, show that the condition of air most sensitive to the action of caloric is that which approaches nearest, in moisture, to the human breath. His theory is that "the sensitiveness of the air charged with moisture is due to its peculiar electrical condition, induced by the attrition and disintegration of the aqueous particles." Mr. Paine claims a gain, in point of economy, of above 80 per cent over the ordinary steam engine, and absolute immunity from explosion. As far as his experiments have extended, this result is unquestioned.

We learn that a gentleman connected with our steam marine is about to test the value of the invention on a scale which will settle definitely the question in regard to its superiority over steam. Should the result prove as favorable as the experiments thus far justify the hope that it will, this discovery can hardly fail to produce an entire revolution in the motive power of all machinery. In witnessing the working of this engine, one cannot but be surprised that a discovery so simple in its nature, and so nearly approached by Watt, should have been so long in making.

Mississippi and Missouri Railroad.

We learn that an additional section of 20 miles on the Oskaloosa branch of the above road has just been opened, and trains are now running to Washington, a distance of 40 miles from Muscatine. There are also 67 miles of the main line, connecting Davenport with Muscatine and Iowa City in operation.

From a statement of the Company issued in April last, previous to the opening of the last 20 miles, it appears that the entire expenditures, at that time, including the grading, iron, etc., to Washington, amounted to \$4,198,000. The expenditures at the present time probably reach about \$4,300,000, or about \$40,187 per mile. This includes equipment sufficient for 150 miles of road. It is estimated that the cost of the whole line will equal \$36,000 per mile.

The length of the line is as follows:—

	Miles.
From Davenport to Council Bluffs	812
From the junction to Muscatine	12
From Muscatine to Oskaloosa	95

In all	419
There will also be of side track	40
The estimated cost of both lines, including 40 miles of side track, is...	\$12,500,000
Equipment and station buildings	2,500,000

\$15,000,000

This cost will be represented as follows:—

Bonds on Division from Davenport to Iowa City (7 per cent.)	\$1,000,000
Do. (8 per cent.)	400,000
Do. on Oskaloosa line, (7 per cent.) ..	1,425,000
Do. secured by land grant, (7 per ct.)	7,000,000
Stock	5,175,000

\$15,000,000

The earnings of the road, when completed, are estimated at \$3,000,000 per annum, or \$6,990 per mile.

The earnings of the Galena and Chicago railroad were, in 1854, \$6,146 per mile; in 1855, \$7,648; in 1856, \$7,960; and in 1857, \$9,484.

This road is connected at Davenport, with the Chicago and Rock Island railroad, by the Rock Island bridge, so that cars can pass over the entire length of both roads.

The earnings of the Chicago and Rock Island railroad in 1855 were \$6,829 per mile; in 1856, \$7,781; and in 1857, \$10,363.

The earnings of the Chicago, Burlington and Quincy railroad in 1857 were \$12,081 per mile.

The earnings on 67 miles of road from Davenport to Muscatine and Iowa City the first year after it was opened, including the severest winter ever known in Iowa, during a portion of which business was almost entirely suspended, were \$4,966 per mile—a large receipt on so short a line of road.

The aggregate earnings on 67 miles of road the first year after it was opened (the second year is yet incomplete) were \$332,766 39, and its expenditures, including some items usually charged to construction by other companies, were \$178,891 05—less than 54 per cent. of the earnings.

Patent Metallic Oil.

This oil is manufactured, under the personal superintendence of the inventor, by Messrs. J. & W. W. CUMBERLAND, at their extensive Works, foot of 24th street, E. R. The office of the Company is at 205 Broadway, in this city, where orders are received, and where numerous testimonials may be seen from well known parties who have used it for years. It is claimed for this oil, that it combines the two great qualities, so long sought by railroad managers, viz: efficiency and economy. As a lubricator it compares favorably with sperm oil; is entirely free from gum, will last one-third longer, and move machinery with much less motive power. Messrs. Gibson & Vose of the N. Y. Metallic Car Spring Works, speak very confidently in regard to its merits in this respect, and also as to its anti-friction properties, which with them is a very important point. Its great attraction for the bearings, they say, causes it to remain on longer, thus saving the oil, and reducing the labor required to keep the machinery clean. Another characteristic of this oil is, that it will remove gum previously formed by the use of other oils. Messrs. Quintard & Whitney, of the Morgan Iron Works, state that they have used it upon planers and other machinery and find it entirely free from gum. They recommend it to those wishing a good article. Mr. Stearns, agent of the Northern, N.H., railroad, has used it with the most satisfactory results. After repeated experiments he found it the only article that compared favorably with sperm oil as a lubricator. Mr. Darling, of the 3d Avenue railroad, thinks it a positive saving to that company, even at double the price formerly paid for oils. It requires to be applied but half as often; there is less friction and wear of the brasses; it does not gum or adhere to the boxes; it facilitates the starting and running of the cars. Its merits, as an oil for machinery, in regard to its anti-friction properties, freedom from gum and economy in quantity of oil used is confirmed by the certificates of several gentlemen in charge of machinery at the Fair of the American Institute, held at the Crystal Palace in October last. A large number of Insurance companies have authorized its use

upon machinery upon the same terms for risks as when sperm oil is used. Samples of this oil having been tested, in connection with pure sperm oil, by Jas. R. Chilton, Esq., the eminent chemist, he ascertained that the time and degree of heat at which each entered into combustion did not vary to any appreciable extent; from which fact he inferred that it was equally as safe as sperm, or other fixed oils upon the bearings of revolving machinery. Printed circulars, containing a large number of testimonials, confirmatory of the above, together with full directions for using it, may be obtained by calling upon or addressing Messrs. J. & W. W. CUMBERLAND, 205 Broadway, N. Y.

Cleveland, Painesville and Ashtabula R. R.

At the recent annual meeting of the stockholders of the Cleveland, Painesville and Ashtabula Railroad Company, the old ticket was re-elected, with the exception of Messrs. Hickox and Page, and T. P. Case. The Board now consists of Wm. Case, H. B. Payne, Amasa Stone, Jr., W. D. Beattie, A. Kelly, J. B. Johnson, E. M. Gilbert, T. M. Kelly, S. Witt, Hamilton White, C. C. Dennis, S. G. Randall and James Milner.

Subsequently Amasa Stone, Jr., was elected President. The ticket is said to have been elected by the "New York Central interest." There was a very full vote, 97 per cent. of the stock being represented.

Railroad Earnings.

The business of the Philadelphia and Reading Railroad Company, for the month of July, was as follows:

	1858.	1857.
Received from coal...	\$206,448 81	\$260,357 51
Do. merch'n- dise...	23,612 98	25,160 66
Do. travel, etc.	27,392 85	32,305 26
	\$257,454 64	\$317,823 43
Transportation, road- way, dumpage, re- newal Fund, and all charges.....	130,267 57	147,117 80
Net profit for the m'nth.	\$127,187 07	\$170,705 63
Do. for previous 7 mos.	519,353 44	786,367 20
Total net profit for 8 months.....	\$646,540 50	\$957,072 83
The receipts of the Toledo, Wabash and Western railroad for the third week in August were:—		
Passengers	\$4,527 37	
Freight	22,050 03	
Mail and express	800 00	
Total	\$27,377 40	
Receipts August 1st, to 22d	72,056 45	

Mr. Gilead A. Smith, late of the firm of G. A. Smith and Le Roy, has joined the firm of M. K. Jesup & Co., Railway Agents and Bankers, No. 44 Exchange Place. Their Circular says:

We continue the business of dealing in railway iron, chairs, spikes, locomotives and cars, as well as of all other articles pertaining to the construction and equipment of railroads, and as the agents of the well-known establishment of the Rogers Locomotive and Machine Works, (formerly Rogers, Ketchum & Grosvenor,) of which our Mr. Jesup is Vice-President.

We will attend to the negotiation of stocks, bonds and other securities, either privately, or at the Stock Exchange, our Mr. Smith being a member of the Board.

We shall, in addition, act as Transfer Agents and Bankers, paying and collecting coupons and dividends, and attending to all matters pertaining to a General Railway Agency.

Boston and Worcester Railroad.

We learn that Mr. E. B. Phillips, Superintendent of the Cleveland and Toledo Railroad, in Ohio, has been appointed Superintendent of the Boston and Worcester Railroad, and will soon assume the duties of that office. Mr. Phillips was formerly a freight agent of the Worcester road, and is a native of Massachusetts. He will be cordially welcomed back to this part of the country, and especially since he is to resume a connection with a railroad where he was previously most known.—*Boston Daily Advertiser.*

Iron Bridges.

(From the London Quarterly Review, July, 1858.)
(Continued from p. 556.)

About the period of the erection of the Wear Bridge, Mr. Telford, then rising into eminence as an engineer, began to employ cast iron extensively in bridges, having as early as 1796, constructed a bridge of that material over the Severn at Buildwas. His finest examples, however, were the Tewkesbury, Craigellachie, and other similar structures. So favorable was Mr. Telford to the employment of this material, that, in 1801, he even proposed to throw a single arch of cast iron across the Thames at London Bridge, with an opening of 600 feet, and providing a clear headway of 65 feet above high water. The plan was received with considerable incredulity, and it was sarcastically said that he had determined to set the Thames on fire. But Old London Bridge was becoming rickety. It was deemed necessary to take some steps, and a Committee of the House of Commons was appointed to inquire into the feasibility of his design. Amongst the eminent men consulted were the venerable James Watt of Birmingham, Professor Hutton of Woolwich, Mr. John Rennie, Professors Playfair and Robison of Edinburgh, Mr. Jessop, Mr. Southern, and Dr. Maske-lyne. It was generally admitted that the experience which had been obtained up to that time of the resistance of cast iron to compression was too small to enable a positive opinion to be expressed on the subject. Professor Robison foresaw immense difficulty in casting pieces of the necessary size and exactness, so as to have the radiated joints all straight and bearing; and he apprehended the chipping off of the upper angles of the castings at the crown of the arch by the compression caused by the removal of the centres. On the whole, it appeared to the Parliamentary Committee that the project was far too bold for adoption; and it was eventually abandoned, after considerable expense had been incurred in contracting the river to the necessary width.

Iron bridges of smaller span continued to be successfully erected both in Great Britain and France—the Pont du Louvre (1803) and the Pont d'Austerlitz (1806) being well-known examples. These, however, were shortly thrown into the shade by the Vauxhall Bridge of Mr. James Walker and the Southwark Bridge of Mr. Rennie. Among the examples of arch-construction the latter remains to this day unrivalled as regards its colossal proportions, its massive architecture, and the general simplicity and efficiency of its details. The bridge is of three arches, the centre being of not less than 240 feet span—the most extensive stone arch in existence, that over the Dee at Chester, being only 200 feet. It was found, however, to be a defect in the original construction, that it was liable to expansion and contraction by the alternate heat and cold of day and night, of summer and winter—the arch rising in summer about an inch and a half above its winter's height. The roadway was consequently subject to constant disturbance, and considerable inconvenience was experienced from its leakiness, which has never been entirely remedied.

It will be observed that up to this time all the bridges constructed of cast iron were in the arched form, and the same principles were followed as in bridges of stone, where the arch is treated as one of equilibrium, and all its parts are supposed to be equally at rest, the thrust being resisted directly by the abutments. But during the same period

in which the use of cast iron had been extending, wrought iron had also been introduced as the essential material in suspension bridges capable of bearing the traffic of common roads. While cast iron is of a crystalline, wrought iron is of a fibrous structure; the former being much superior to stone or any other material in resisting compression, the latter being capable of resisting tensile strains to an enormous extent, on which quality its fitness for the purposes of suspension bridges chiefly depends. Thus, whilst granite bears a crushing force of about five tons to the square inch, and malleable iron from twelve to thirteen tons, the crushing force which cast iron will bear is not less than from thirty-six to forty-nine tons to the square inch. But whereas cast iron offers a resistance to extension of only from three to seven tons per square inch, wrought iron presents a resistance of not less than from sixteen to eighteen tons.

The semi-civilized nations of South America had long adopted suspension bridges of a light description for the crossing of rivers and narrow valleys. In Chili and Peru, in China and India, bridges of this sort, constructed of hide, rope, and bamboo basket-work, were well known and long used. The first suspension bridge in this country was of a very rude description, consisting of two common chains stretched across the river Tees near Middleton, upon which a footpath was laid, enabling the colliers to pass between their cottages and the colliery, which stood on the opposite side of the river. Sir Samuel Brown greatly improved—he may almost be said to have invented—the iron suspension bridge, by introducing the system of the bar-link, now generally adopted. It is a curious and interesting circumstance that he derived the first idea of this contrivance from a spider's web which hung across his garden walk one dewy autumn morning. Many bridges were made on his principle—on the Tweed, at Newhaven, at Brighton, at Montrose, and other places. The finest work of this kind, however, was the celebrated Menai Bridge, constructed by Telford over the arm of the sea which flows between the mainland of Wales and the island of Anglesea. And although it has been thrown into the shade by the great railway bridges of recent years, it was unquestionably the boldest and most successful engineering undertaking of that time. The proposal which Telford had made some twenty years before to bridge over the Thames with a single arch of cast iron, was now exceeded in daring by his scheme of bridging over an arm of the sea with a suspension bridge of wrought iron, under which a ship might pass in full sail. The years which intervened had been to Telford full of the results of observation gathered in the school of daily experience. Though originally but a working mason, who commenced his career with the building of dry stone dikes in Dumfriesshire for the Duke of Buccleuch, he had by dint of valourous industry reached the very first rank in his new profession. He had no education beyond what he had gathered at a Scotch parish school. But he possessed a remarkably clear insight, and, like Brindley and Stephenson, arrived at his conclusions by a sort of instinct. He had already built so many bridges of stone and iron, and constructed so many main highways, that his contemporaries distinguished him as 'Pontifex Maximus' and the 'Colossus of Roads.' When instructed by Government to prepare plans for a bridge across the Menai Straits, he had already occupied much time in ascertaining, by experiments, the tensile power of iron; and the result determined him to recommend for adoption a suspension bridge of wrought iron as best suiting all the exigencies of the case. The bridge being in the vicinity of the Snowdon range, and situated at a great height—100 feet above the level of the sea at high water—was subject to violent gusts of wind, and it was therefore necessary that it should present as small a surface as possible to its force.

The point of crossing selected was Ynys-y-moch (or Pig Island), on which one of the two main suspension piers was placed, and the foundation stone of the first was laid on the 10th of August,

1819. The total height of the main piers from low water spring-tide is 194 feet, the height of the roadway above high water 100 feet. The road platform was occupied by two parallel carriage-ways, each 12 feet in breadth, with a footpath of four feet between them, thus admitting of four distinct lines of suspension-chains. The distance between the points of suspension was 579 feet. The extremities of the chains were firmly fixed into the solid rock on either side, and hung loosely over cast-iron saddles placed on the two main towers; and from these chains the horizontal platform or road-way was suspended by vertical rods. The entire work was very skilfully done; every piece of iron used in the bridge was subjected to careful tests, and each bar made to bear a strain of at least 35 tons. The bridge was finished and opened for traffic on the 30th January, 1826, having been five years and a-half in building.

It is a serious objection to bridges of the suspension kind that they are liable to undulate and swing by the passage of a comparatively light load, by the action of the wind, and more particularly by the regular tread of a body of men. A suspension bridge at Broughton, near Manchester, was broken down in 1831, by the march of a company of only sixty soldiers, and a similar accident happened at Angers in France. The chain-pier at Brighton was in like manner seriously damaged in 1833 by the force of the wind and the waves, which threw the platform into a state of violent vibration, and reduced it almost to a total wreck. Nor has the Menai Bridge escaped damage from the same cause. In January, 1839, a storm of wind so injured it that one-third of the suspending-rods were broken, both the carriage-ways were rendered impassable, and nearly 200 feet of one of them was broken away. It seems a marvel how the bridge, under such a vibratory strain, should have escaped complete destruction.

Amongst the best and most recent specimens of road suspension bridges may be mentioned Mr. Tierney Clark's over the Danube at Buda-Pesth, Mr. Brunel's over the Thames at Charing-Cross, and Mr. Page's over the Thames at Chelsea. The Buda-Pesth and Charing-Cross Bridges are both of greater span than the Menai; the former, which includes a carriage-way as well as a foot-road for passengers, being 700 feet, the latter, which is a foot-road only, being 676 feet. In Mr. Brunel's bridge, the rigidity has been increased by connecting together the chains on each side of the bridge so as to constitute essentially but one chain, every suspending-rod bearing with an equal strain on both. Mr. Page's bridge is chiefly remarkable for the elegance of its design, in which we detect the skill of the architect as well as of the engineer. By means of two wrought-iron longitudinal lattice-girders extending the entire length of the bridge firmly secured to the suspension chains by vertical rods, great rigidity is secured. Cast iron, in graceful forms, has also been extensively employed in the columnar suspension towers, the piers, and the foundations which are strongly cased in iron.

The noble bridge over the Danube at Buda-Pesth was a work of much greater difficulty. The previous communication had been effected by means of a bridge of boats, often destroyed or seriously damaged at the breaking up of the ice in spring, when the passage of the stream was completely interrupted. The bed of the river—about a quarter of a mile wide—was sand and mud to a considerable depth—presenting bad foundations; and it was feared that the expense of constructing the requisite number of piers for a stone or cast-iron bridge would have rendered either impracticable. Under these circumstances, a suspension bridge was determined on, and commenced amidst general misgivings. The Hungarians believed that the bridge could never stand the pressure of the winter floods, and they apprehended that the piers would be swept away by the torrents of ice which rush down the Danube in spring. Great opposition was encountered from the nobles, whom, for the first time, it was proposed to tax for the purpose. Such a thing had never before been heard of as Hungarian nobles paying tolls. Count Szechenyi, the patriotic pro-

jector of the work, inveighed against them in the Diet, wrote against them in the journals, and in the end conquered them. A Bill passed both Chambers in 1839, by which the legal taxation of the nobles, in the form of a bridge-toll, was acknowledged. The *Judex Curie* shed tears on the occasion, and declared that 'he would never pass that ill-fated bridge, from the erection of which he should date the downfall of Hungarian nobility.' The works were commenced in the following year, and considerable difficulty was experienced, as had been anticipated, in securing proper foundations. Some of the staging was carried away on the breaking up of the ice in January, 1841, but on the whole what had been done was not greatly damaged. The work proceeded steadily, and the superstructure was pretty well advanced in 1849. The chains had just been raised, the roadway beams fixed in their places, and the upper parts of the suspension-towers finished, when the Hungarian revolution broke out. Towards the end of December, on the advance of the Austrian army, the Provisional Government sitting at Buda sent messages to the directors of the bridge, requiring them, under heavy penalties, immediately to prepare the approaches for the passage of the rebels and their artillery. It was in vain represented that the bridge was unfinished, and that dangerous consequences might ensue. Temporary planking was laid upon the longitudinal larch timbers, to save them as much as possible, and the whole Hungarian army retreated over the bridge—infantry, cavalry, artillery, and baggage waggons. A few days after, the Imperial troops, to the number of 70,000, with 270 cannons, crossed after them, and took possession of Buda-Pesth. The bridge works proceeded in the very midst of the war, though the supply of iron-work was stopped in consequence of the foundries being taken possession of to cast cannon for the contending armies. Strong batteries were thrown up on the Buda side to defend the entrance to the bridge and to sweep its platform. The workshops were cleared away, and the materials removed to a distance. The Imperial troops, being repulsed by the Hungarians from Pesth, again crossed the bridge, after which Hentzi, the Austrian General, had the platform timbers stripped off, leaving the cast-iron beams and trusses quite bare. Arrangements were made for blowing asunder the chains, in event of the Hungarians attempting to force a passage, and 30 cwt. of gunpowder was deposited for the purpose. Firing went on between the rival forces on the opposite banks; about a hundred Austrian cannon were directed against Pesth, and when Georgey arrived in that city on the 4th of May, he commenced bombarding Buda, which stands exactly over against it. The cannonade continued day and night for eight days, and Pesth was set on fire in thirty-two different places. Mr. Adam Clarke, the resident engineer, had his house smashed with 24 lb. shot. Some damage was done to the bridge machinery and to the columns of the toll-house on the Pesth side, but far less than might have been expected. Buda having been successfully stormed by the Hungarians, one of the last acts of the Austrian General Hentzi was to set fire to the powder on the bridge with his own hands, blowing himself and about eighty feet of the skeleton of the platform to atoms. After this all resistance ceased. Georgey had the bridge temporarily repaired for the passage of his troops. It was found that some injury had been done to the chains by the heavy shot, steps were immediately taken to replace them, and the works went on as vigorously as before. Again the tide of war turned, and the Hungarians being beaten at Raab, Dembinsky made arrangements to blow up the bridge as the Austrians had done before, in order to protect the retreat of his troops. Mr. Clarke implored the General not to commit such an act of Vandalism, and offered again to take up the planking, and render the road impassable. Dembinsky consented, the bridge was stripped of its timbers, and when close upon completion, was once more reduced to a skeleton. When the war was ended, the bridge was finished, and the people of Buda-Pesth now proudly pro-

source it to be the 'eighth wonder of the world.'

A curious modification of the suspension bridge is presented in that erected over the valley of the Sarine in Switzerland, connecting the hill on which stands the city of Fribourg with the opposite mountain. Before this bridge was built, the road leading through Fribourg to Berne and the German frontier of Switzerland descended into the valley and gained the summit of the mountain opposite by an exceedingly crooked and precipitous route. The passage was at all times dangerous, and in winter usually impassable. This state of things continued until 1830, when M. Chaley, a French engineer, undertook to build a bridge across the valley. It is remarkable that this, the largest single span bridge in the world, exceeding that of Telford by more than three hundred feet, should be entirely constructed of so delicate a material as *fine wire* little more than a tenth of an inch in diameter! The bridge, which includes a carriage-way with a footpath on each side, is of the vast span of 870 feet between the suspension towers, and is supported by four main suspension cables, each composed of 1,056 threads of wire, bound firmly by a ligature of the same material at every two feet, and thus preserving its cylindrical form.

An American engineer, Mr. Roebling, has even had the daring to employ a wire suspension bridge, for the purpose of railway traffic across a rapid river. American engineers frequently exercise their highest skill in 'doing things cheap.' Hence there is perhaps more bad, rickety workmanship in America than in any other civilized country. One of the most vaunted merits of this railway suspension bridge is that it has cost only £80,000; whereas a rigid wrought iron bridge, if constructed by an English engineer, might have cost more than double the money. Nevertheless, Mr. Roebling's bridge is an ingenious work, and does him much credit. It forms the link which binds the railways of Western Canada with those of the United States, and spans the wide and deep gorge at the bottom of which flows the Niagara river, about two miles below the Falls. The span of the bridge as originally constructed was not less than 820 feet, and the roadway is 250 feet above the level of the stream. It makes the head dizzy to look down from that immense height upon the waters rushing below at the rate of about thirty miles an hour. Seen from beneath, standing by the river's side, the bridge looks like a strip of paper suspended by a cobweb. When the wind is strong, the gossamer looking structure swings to and fro as if ready to start from its fastenings, and it even shakes under the firm tread of the passing pedestrian. Yet, though suspended by means of wire—the first cord of which was carried across the river at the tail of a kite—it is of considerable strength, bearing locomotives and trains along the railroad above, and ordinary road traffic upon the platform immediately underneath it. The floors of both roads are constructed of timber beams, with wrought-iron diagonal rods passing between them; and both platforms have three distinct sets of suspension wire cables, which rest upon separate saddles on the top of the suspension towers. The four cables—two suspending the upper, or railroad, and two suspending the lower road, or highway—are each of ten inches diameter, composed of 3,640 wires of No. 9, gauge, making the solid section of each wire rather more than 60 square inches. From the suspension cables descend 624 suspenders, also of wire, each stated to be capable of supporting a weight of 30 tons. The anchor chains are firmly imbedded in masonry, built deep into the solid rock on either side. Whilst it must be admitted that the Niagara Bridge has been to some extent successful, most engineers entertain great doubts as to the applicability of the suspension principle to railway purposes. Shortly after this bridge was opened, it was ascertained that the deflection caused by the passing trains was so considerable—varying according to the load from five to nine inches—that it was found necessary to reduce the span about a hundred feet by building up underneath the platform at each end, and by additional strutting;

and after all, the speed of the passing trains had to be reduced from five to three miles an hour, while the load was reduced to its minimum. The adoption of the suspension principle is no doubt a great temptation to those engineers who study the saving of expenditure at the outset; but it is highly probable that the cost of maintaining the cheaper structure will be found to amount to considerably more than the interest on the extra capital that would have been required to erect a rigid iron bridge capable of bearing railway traffic at ordinary speeds.

We now come to iron railway bridges proper, in the construction of which the English engineer has achieved his greatest triumphs, and exhibited higher skill and ingenuity in surmounting difficulties than in any other branch of his Cyclopean science. On the introduction of railways, an extraordinary stimulus was given to the art of bridge building. The necessity which existed for carrying rigid roads, capable of bearing heavy railway trains at high speeds, over extensive gaps free of support, rendered it apparent that the methods which had up to that time been employed for bridging space were altogether insufficient. The railway engineer could not, like the ordinary road engineer, divert the road, and select the best point for crossing a river or valley. He must take such ground as lay in the line of his railroad, be it over bog, or mud, or shifting sand. Navigable rivers and crowded thoroughfares had to be crossed without interruption to the existing traffic, sometimes by bridges at right angles to the stream or road, sometimes by arches more or less oblique. In many cases great difficulty arose from the limited nature of the headway; but, as the level of the original road must generally be preserved, and that of the railway was in a measure fixed and determined, it was necessary to modify the form and structure of the bridge in almost every case in order to comply with the public requirements. Novel conditions were met by fresh inventions, and difficulties of the most unusual character were one by one successfully surmounted. Instead of the erection of a single large bridge, constituting, as formerly, an epoch in engineering, hundreds of extensive bridges of novel construction were simultaneously constructed. The number built since the commencement of the railway era is not less than 25,000 in Great Britain alone, or more than all the bridges previously existing in the country. In London and the suburbs there are about 11 miles of viaducts, consisting of a series of arches. In executing this vast amount of bridge work, iron has been the sheet-anchor of the engineer. In its various forms it offered an invaluable resource, where rapidity of execution, great strength, and cheapness of construction, were elements of prime importance.

In many of the early cast-iron bridges the old form of the arch was adopted when the structure depended wholly on compression, the only novel feature being the use of iron instead of stone. But in a large proportion of cases, the arch with the railroad over it, was found inapplicable, in consequence of the limited headway which it provided. Hence it early occurred to Mr. George Stephenson, when constructing the Liverpool and Manchester Railway, to adopt the simple cast-iron beam for the crossing of several roads and canals along that line; then cast-iron arched girders, with their lower webs considerably larger than their upper, came into general use where the span was moderate; and wrought-iron tie-rods below were added to give increased strength where the span was moderate; and wrought-iron tie-rods below were added to give increased strength where the span was greater. A serious accident, however, which occurred to a bridge of this description over the 'Dee, near Chester, tended to throw discredit on this kind of structure. It was felt that the theory of equilibrium of the stone arch, as employed in ordinary stone bridges, was inapplicable in the case of cast-iron railway bridges, where the rolling load bears so much larger a proportion to the weight of the whole structure. From a series of experiments afterwards conducted by government engineers, it also appeared that girders were

more apt to be deflected by a load run over them at a high speed, when it was supposed that the weight of the locomotive coming suddenly upon the bridge had the effect of giving it a heavy blow, and thus increased the risk of fracture, though the same bridge might be able to sustain a standing load of more than six times its breaking weight. Although railway engineers accounted differently for the fact, they were agreed in the necessity of contriving bridges of iron of greater strength and rigidity, capable of safely bearing heavy loads at high speeds.

The next step was the contrivance of arched beams or bowstring girders, firmly held together by horizontal ties, to resist the thrust, instead of abutments. Numerous specimens of this description of bridge, designed by various engineers, might be adduced, but as the very finest specimen of such a bridge yet constructed—as a monument of modern engineering skill with the impress of power as grandly stamped upon it as on any work of our times—we prefer introducing a brief description of the High Level Bridge at Newcastle, which is due to the genius of Mr. Robert Stephenson.

The problem was, to throw a railway bridge across the deep ravine which lies between the towns of Newcastle and Gateshead, at the bottom of which flows the Tyne—a navigable river crowded with "keels," which bear down from colliery staiths their loads of black diamonds from the London market. Along and up the sides of the valley—on the Newcastle bank especially—run streets of old-fashioned houses clustered together in the strange forms peculiar to the older cities. The ravine is of great depth—so deep and so gloomy looking towards dusk, that local tradition records that when the Duke of Cumberland arrived late in the evening at the brow of the hill overlooking the Tyne, on his way to Culloden, he exclaimed to his attendants, on looking down into the black gorge before him, "For God's sake, don't think of taking me down a coal-pit at this time of night!" The road down the Gateshead High Street was almost as steep as the side of a house, and up the Newcastle Side, as the street there is called, it is little better. During many centuries the traffic north and south passed along this dangerous and difficult route, over the old bridge which crosses the river in the bottom of the valley. For some thirty years the Newcastle corporation discussed various methods of improving the bridge road between the towns; Captain Brown Telford, and other engineers, were consulted, and the discussion might have gone on for thirty years more, but for the advent of railways, when the skill and enterprise to which they gave birth solved the difficulty and bridged the ravine. The locality adroitly took advantage of the opportunity, and insisted on the provision of a road for ordinary vehicles and foot passengers in addition to the railroad. In this circumstance originated one of the striking peculiarities of the High Level Bridge, which serves two purposes, being a railway above and a carriage roadway underneath. The work was not executed, however, without dismal forebodings on the part of the Gateshead people; one of whom, on hearing the pile-driving machine at work with the foundations, was wont to ejaculate, "There goes another nail in the coffin of Gateshead!"

The breadth of the river at the point of crossing is 515 feet, but the length of the bridge and the viaduct between the Gateshead station and the terminus on the Newcastle side, is about 4,000 feet. It springs from Pipewell Gate Bank, on the south, directly across to Castle Garth, where, nearly fronting the bridge, stands the fine old Norman keep of the *New Castle*, now nearly eight hundred years old, and a little beyond it is the spire of St. Nicholas church, with its light and graceful Gothic crown; these noble relics of the older civilization thus confronting this beautiful offspring of the new. The bridge passes completely over the roofs of the houses which fill both sides of the valley, and the extraordinary height of the upper parapet, which is about 130 feet above the bed of the river, offers a prospect to the

passing traveler the like of which is nowhere else to be witnessed. Far below are seen the queer chares and closes, the wynds and lanes of old Newcastle; the water is crowded with pudgy, black, coal keels, each with their single sail, said to be of the same primitive models as the vessels of the early Danish invaders who so often ravaged Tyneside; and, when there is a lull of the great smoke volcanoes which usually obscure the sky, the funnels of steamers and the masts of the shipping may be seen extending far down the river. The old bridge lies so far beneath that the passengers crossing it seem like so many bees passing to and fro. The High Level Bridge itself is an eminently picturesque object seen looming amidst murky clouds of smoke, and Roger Fenton has made it the subject of one of his happiest photographs.

The first difficulty encountered in building the bridge was in securing a solid foundation for the piers. The dimensions of the piles to be driven were so huge, that the engineer found it necessary to employ some extraordinary means for the purpose. He called Nasmyth's Titanic steam-hammer to his aid—the first occasion, we believe, on which this prodigious power was employed in bridge pile-driving. A temporary staging was erected for the steam-engine and hammer apparatus, which rested on two keels, and, notwithstanding the newness and stiffness of the machinery, the first pile was driven on the 6th of October, 1846, to a depth of 32 feet in four minutes. Two hammers of 30 cwt. each were kept in regular use, making from 60 to 70 strokes per minute; and the results were astounding to those who had been accustomed to the old syle of pile-driving by means of the ordinary pile frame, consisting of slide, ram, and monkey. By the old system, the pile was driven by a comparatively small mass of iron descending with great velocity from a considerable height—the velocity being in excess and the mass deficient, and calculated, like the momentum of a cannon-ball, rather for destructive than impulsive action. In the case of the pile-driver, on the contrary, the whole weight of a heavy mass is delivered rapidly upon a driving-block of several tons weight placed directly over the head of the pile, the weight never ceasing, and the blows being repeated at the rate of a blow a second, until the pile is driven home. It is a curious fact, that the rapid strokes of the steam-hammer evolved so much heat, that on many occasions the pile-head burst into flames during the process of driving. The elastic force of steam is the power that lifts the ram, the escape permitting its entire force to fall upon the head of the driving block; whilst the steam above the piston on the upper part of the cylinder, acting as a buffer or recoil spring, materially enhances the effect of the downward blow. As soon as one pile was driven, the traveler, hovering overhead, presented another, and down it went into the solid bed of the river with as much ease as a lady sticks pins into a cushion. By the aid of this formidable machine, what was formerly amongst the most costly and tedious of engineering operations, was rendered simple, easy, and economical.

When the piles had been driven and the cofferdams formed and puddled, the water within the enclosed space was pumped off by the aid of powerful engines to enable the foundations to be dug out and built up. Considerable difficulty was experienced in getting in the foundations of the middle pier, for the surrounding pressure forced in the water through the quicksand below as fast as it was removed. This fruitless labor went on for months, and many expedients were tried. Chalk was thrown in in large quantities, outside the piling, but without effect. Cement concrete was at last put within the coffer-dam, until it set, and the bottom was then found to be secure. A bed of concrete was laid up to the level of the heads of the piles, and the foundation course of stone-blocks was commenced about two feet below low water, and the building proceeded without further difficulty. It may serve to give some slight idea of the magnitude of the work, when we state that 400,000 cubic feet of ashlar, rubble, and concrete

were worked up in the piers, and 450,000 cubic feet in the land arches and approaches.

The most novel feature of the structure is the use of cast and wrought iron in forming the double bridge, which admirably combines the two principles of the arch and suspension, the railway being carried over the back of the ribbed arches in the usual manner, while the carriage-road and footpaths, forming a long gallery or aisle, are suspended from these arches by wrought-iron vertical rods, with horizontal tie-bars to resist the thrust. The suspension bolts are enclosed within spandril pillars of cast-iron, which add great stiffness to the superstructure. This system of longitudinal and vertical bracing has been much admired; for it not only accomplishes the primary object of securing stability in the fabric, but at the same time, by its graceful arrangement, heightens the beauty of the structure. The arches consist of four main ribs, disposed in pairs, with a clear distance between the two inner arches of 20 feet 4 inches, forming the carriage-road, while between each of the inner and outer ribs there is a space of 6 feet 2 inches, constituting the footpaths. Each arch is cast in five separate lengths or segments, strongly bolted together. The ribs spring from horizontal plates of cast iron, bedded and secured on the stone piers. All the abutting joints are carefully executed by machinery, and the fitting is of the most perfect kind. In order to provide for the expansion and contraction of the iron arching, and to preserve the equilibrium of the piers without disturbance or racking of the parts of the bridge, it was provided that the ribs of every two adjoining arches resting on the same pier should be secured to the springing-plates by keys and joggles; whilst on the next piers, upon either side, the ribs remained free and were at liberty to expand or contract—a space being left for the purpose. Hence each arch is complete and independent within itself, the piers having simply to sustain their vertical pressure. The arches are six in number, of 125 feet span each; the two approaches to the bridge being formed of cast-iron pillars and bearers in keeping with the arches. The result is a bridge that for massive solidity and perfect finish may be pronounced unrivalled, and over which the stream of road and railway traffic may be safely carried north and south for a thousand years to come. This great work was opened on the 15th of August, 1849, and a few days after the royal train passed over, halting for a few minutes on the bridge to enable her Majesty to survey the wonderful scene below. In the course of the following year the Queen opened the majestic stone viaduct and bridge across the Tweed, upwards of 2,000 feet in length, by which the last link was completed of the continuous line of railway between London and Edinburgh. Over the entrance to the Berwick station, occupying the site of the once redoubtable Castle of Berwick, so often the deadly battle-ground of the ancient Scots and English, was erected an arch under which the royal train passed, bearing in large letters of gold the appropriate motto, "The last act of the Union."

(To be continued.)

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CUMBERLAND METALLIC OIL
WORKS,
FOOT OF 24th STREET, EAST RIVER.
OFFICE, 205 BROADWAY,
NEW YORK.

WE respectfully call the attention of those interested in the running of

RAILROADS,
STEAMSHIPS,
Machine Shops, Factories,

and Machinery of all kinds, to the valuable qualities of our Oil.

1. It is **entirely free from Gum**, cools heated journals quicker than water, and keeps them cool by its superior anti-friction properties.

2. By its use **less motive power** is required than in using any other oil yet known. It will move machinery with very perceptibly less motive power than Sperm Oil.

3. The same quantity will last at least 33% per cent. longer than Sperm, or any other Oil, and the quality is always strictly uniform in its season. We make Summer and Winter Oil.

4. Having largely increased the capacity of our works, we have been enabled to reduce the prices below those of last year; and it is our intention to keep it at all times below the price of Sperm.

The prejudice existing against Oils has very properly gone up, and we are fully aware of the deceptions which have been and still are practised by unscrupulous persons; but we are prepared to substantiate all the foregoing statements relative to the superiority of our Oils, at

OUR OFFICE, 205 BROADWAY,
by large numbers of certificates of the best managed lines of Railroads, Steamships, Machine Shops, & Factories in this country, testifying to its value as being greatly superior to any other. Most of the certificates being of prominent Companies, it is probable that more or less of them will be known to all. We have also the MEDALS and DIPLOMAS awarded to us by the AMERICAN INSTITUTE.

We will at all times be ready to refund the money if the facts above stated are not satisfactorily substantiated on trial of the Oil; and we only solicit from those who have never used it very small trial orders. We also make

SUPERIOR GREASE, TALLOW, AND BURNING OIL.

The BURNING OIL will burn in any lamp that will burn Sperm, lasting longer, and burning without smell or smoke.

We manufacture an

OIL EXPRESSLY FOR
SEWING MACHINES,
GREATLY SUPERIOR TO ANY OTHER
AND WITH LESS SMELL.

Several have attempted to imitate our Oil, calling it "METALLIC OIL," as well as giving it a similar appearance; and we would CAUTION buyers against them, and advise them to see that our brand—

"NEW YORK CUMBERLAND METALLIC OIL WORKS, FOOT OF EAST 24th ST."

with the names of the inventors and kind of Oil, is upon every package, however small.

Address,—

N. Y. C. METALLIC OIL WORKS
205 BROADWAY
NEW YORK.

6m36

TAW & BEERS,

DEALERS IN

Sperm, Whale and Elephant Oils,
Adamantine Car and other Candles,
AND MANUFACTURERS OF**TAW'S LUBRICATING
GREASE**FOR RAILROAD CARS
AND HEAVY MACHINERY.THIS celebrated GREASE has been in use upwards of
Ten years; and is in the opinion of FORTY RAIL-
ROAD COMPANIES, whom we regularly supply,

The Cheapest and Best Lubricator in use.

Parties ordering, will please state the kind of box, or descrip-
tion of machinery.TAW & BEERS,
18 SOUTH WATER ST.,
Philadelphia.**RAILROAD IRON
AND
EQUIPMENTS.****T.A. HOWLAND & CO.**
54 WILLIAM ST.,HAVING the advantage of the most favorable arrangements
with both Foreign and American Manufactur-
ers are prepared to supply Railroad Companies with
IRON and ROLLING STOCK on the most favorable
terms, and also to Negotiate their Securities.**THE ROUGH AND READY
ROLLING MILLS
OF DANVILLE, PA.,**ARE prepared to fill orders for RAILS of the best quality
at the market price.T. A. HOWLAND & CO., Agents,
54 William st., NEW YORK.**RAILROAD IRON.**THE RENSSLAER IRON COMPANY,
TROY, N. Y.,OFFER RAILS of their own manufacture deliverable as may
be desired by purchasers.**OLD RAILS**

received in exchange for new, or for re-manufacturing.

JOHN A. GRISWOLD, Agent,
TROY, N. Y.

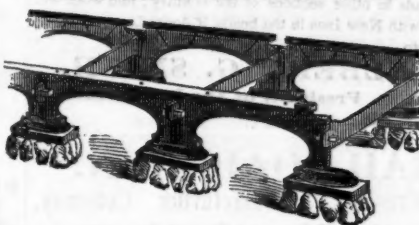
New York Agency:

BUSSING, CROCKER & DODGE,
32 CHURCH ST.**RAILROAD IRON
AT ELMIRA, N. Y.**THE subscribers have American Railroad Iron for sale as
above; also Welsh Iron in New York and other markets.FABER, PERKINS & CO.,
Brokers, 69 Wall st.
New York, August 10th.**FOR SALE.**THE undersigned offer for sale the following valuable property
in the city of Alexandria, Virginia.An IRON FOUNDRY, with steam power, cupolas,
cranes, flasks, and all the fixtures requisite for a first class
business, also an extensive assortment of patterns for Railroad
Machinery, Mill Gearing, Steam Engines, etc., etc.The foundry building is of brick, fire-proof, well-lighted and
has a clear floor 100 ft x 60 ft. Also, the square of ground on
which the above is located, fronting on the Orange & Alexan-
dria Railroad and containing about 84,000 square ft. of ground.The position is a very favorable one for the transaction of
an extensive foundry business and well worthy the attention
of parties disposed to engage in that business.Also for sale or lease their extensive LOCOMOTIVE,
CAR BUILDING AND MACHINE WORKS in
Alexandria, situated on the River Potomac, comprising Real
Estate, Buildings and Machinery for the transaction of a large
machine business of any kind.The location is considered a most desirable one, being im-
mediately on deep navigable water and in a city from which
three important railroads diverge, one of which connects with
a line of roads terminating at New Orleans, with diverging
lines from the South and South-west.The subscribers will sell or lease this property or they will
work it in connection with parties who are disposed to invest
capital to purchase an interest with them. It is not deemed
necessary to give an extended description of the property, as
parties disposed to negotiate will probably examine for them-
selves.For terms, etc., apply to **SMITH & PERKINS,**
Alexandria, Va.**RAILWAY DIRECTORY**FOR
1858CONTAINING a correct list of all the Officers and
Directors of the RAILROADS IN THE UNITED
STATES AND CANADA; together with their Length,
Capital, Cost, Debt, Earnings, etc., etc.; compiled from offi-
cial Reports by J. W. Low, Jr.

Price in Paper covers, 50 cents each.

" " Muslin " 65 " "

Orders addressed to

J. W. LOW, JR.,
4135 No. 9 South William st., New York.**BEERS'
ELASTIC IRON RAILWAY,
EMBEDDED TO THE COPING RAIL.**

Saving Life and Property from Accident.

HERE is an indestructible railroad resting upon foundations
below the frost and entirely independent of its effects,
with a rolled iron coping rail maintained in perfect line by the
continuous support of the foundation rail, and between which
last, and the coping rail is interposed a packing of vulcanized
gutta percha; saving one-third on motive power, and the en-
tire breakage of wheels and axles, which is only a simple re-
sult of the jumping and pounding motion communicated to
the train, by the undulations in the T rail, which are al-
ways increasing, under the pressure of such train; and also more
than three-fourths of the current cost of relays, and repairs;
while the rolling stock will last twice as long, with a large re-
duction on first cost; making a total yearly saving in current
expense of from \$1,500 to \$2,000 per mile, which is equi-
valent to an additional value of some \$25,000 on every mile
of road as compared with semi-wooden structures of nearly
equal cost.Average cost of the iron railway, exclusive of grading, \$11-
000 per mile, and worth, at any time during 100 years, \$5,500
for old iron.

Also,—

**BEERS'
CAST-IRON ENDLESS RAIL,
FOR CITY RAILROAD.**This track is laid without tie, string piece, bolt, or spike;
the joints are rendered perfect by an upright iron wedge
splice, will wear twenty years without repairs, and then be
worth half the first cost as OLD IRON.

Expense per mile, when laid, from \$5,000 to \$6,000.

To examine a section of either track, or for descriptive
drawings with circular, address the undersigned at BROOK-
LYN, N. Y.S. A. BEERS, Civil Engineer,
Inventor and Patentee for U. S. and Europe.

3m35

**PROPOSALS FOR
LEASING****THE CHESTER VALLEY RAILROAD.**PROPOSALS will be received at the office of the Chester
Valley Railroad Company,

No. 439 WALNUT ST., PHILADELPHIA,

until the Thirtieth day of September next, for furnishing Stock
and Machinery, running the road and keeping it in good order
and condition for a period of not less than five years from the
thirty-first day of December, A. D. 1858.

Specifications can be seen at the office.

The Chester Valley Railroad begins at Bridgeport, Penn-
sylvania, on the Schuylkill River, near Norristown, (a point 6
miles from Philadelphia) where it connects with the Philadel-
phia and Norristown Railroad on the North bank, and the
Philadelphia and Reading Railroad on the South bank. It is
twenty-one miles in length, and runs for the greater part of
that length in a line nearly straight (having but few curves) to
the terminus at Downingtown, Chester county, where it con-
nects with the Pennsylvania Railroad. With the exception of
a light grade near Bridgeport, the Road is perfectly level.The great Chester Valley which it traverses is unsurpassed
in the abundance and fertility of its crops and farming pro-
duce, limestone quarries and iron ore beds.—The Road is in
good order, and doing an excellent Passenger and Freight busi-
ness, which is steadily increasing.All proposals to be addressed to BENJAMIN RUSH, Esq.,
President of the Chester Valley Railroad Company, Philadel-
phia.CHAS. O'NEILL,
Secretary.

6133

REMOVAL.W. D. STARLING, Metal Broker and Rail Inspector,
Lawrence, Poultry Hill.
LONDON, 1857.

G. M. TRACY.

J. W. COOKE

**G. M. TRACY & CO.,
STOCKS, BONDS, ETC.
LOANS NEGOTIATED.**No. 49 EXCHANGE PLACE,
NEW YORK.**PETERS, CAMPBELL & CO.,**BANKERS AND DEALERS IN
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American Exchange Bank,
Banks and Bankers, Richmond and Lynchburg, Va.**KETCHAM & WILLIAMS,**

STOCK BROKERS,

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Near Wall, NEW YORK.
Stocks and Bonds bought and sold on Commission, and
Loans negotiated. 6m9**DUNCAN, SHERMAN & CO.,
BANKERS,**

Corner Pine and Nassau Sts., NEW YORK,

CIRCULAR NOTES AND LETTERS OF CREDIT,
For travelers, available in all the principal cities of the world.ALSO, MERCANTILE CREDITS,
For use in EUROPE, CHINA, etc.

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By SIMEON DRAPER,
Office, No. 36 PINE ST., NEW YORK.**REGULAR AUCTION SALES
AT THE MERCHANTS' EXCHANGE EVERY DAY.**

STOCKS and BONDS bought and sold at private sale.

Sale every day at 12½ o'clock. See Catalogue.

CHAS. R. HOFFMAN,
MALCOLM CAMPBELL.J. B. CHOWEN,
JOHN GILSTON.**HOFFMAN, CAMPBELL & CO.,
BANKERS AND DEALERS IN BULLION & SPECIE,**

No. 45 Wall st., (Phoenix Bank Building).

SOVEREIGNS,
DOUBLOONS,
XX FRANCS,
X GUILDERS,
X THALERS,
DOLLARS,
and all kinds of
GOLD and SILVER,

Bought and Sold.

BAR GOLD and COIN for SHIPPERS and MELTERS
furnished. 3m23**H MEIGS, Jr. & SMITH,
BANKERS and BROKERS,**39 WILLIAM STREET,
(FIRST BUILDING BELOW WALL STREET.)STOCKS and BONDS Bought and Sold on Commission.
MERCANTILE PAPER and LOANS Negotiated.

INTEREST ALLOWED ON DEPOSITS.

HENRY MEIGS, Jr. WM. ALEX. SMITH.

New York, May 11, 1858.

**PATENT
GRATE BARS,**

MANUFACTURED BY THE

SALAMANDER GRATE BAR COMPANY.

THESE Bars are warranted superior to any other kind in
use for economy, in durability and saving of fuel.
They are adopted in most of the extensive Manufactories,
Steamers and Railroad Companies, who have given
testimonials of their superiority.Orders promptly executed. Send dimensions to the office of
the Company, No. 30 Pearl st., N. YORK. 3m26

TWO 26 TON FREIGHT ENGINES, \$5,000 EACH.

4 ft. 8½ in. Gauge, 8 ft. and 4 ft. 8 in. Wheels.
Cylinders, 15x24 157 Flues, 1½x11 ft. 7 in.
These Engines cost \$5,000 each, and have been built
about three years, have new Cranks and Tires, and are in
good order. For sale by
WILLIAMS & PAGE,
3m30 44 Water St., Boston, Mass.

TUBULAR RAIL.



Railroad Managers will be interested
by an examination of the "TUBU-
LAR RAIL," patented in Europe
and America by STEPHENS & JER-
KINS, Covington, Ky. These rails have
decided advantages over any rail
hitherto made, among them the fol-
lowing:—
The "Tubular Rail" of 50 lbs. per
yard has greater strength and elastic-
ity, with the same outside surface as
solid rails of 80 lbs. per yard.
Its density is greater,
Its welding nearer perfect, and
Its durability superior.
Unlike other new forms of rail, it can be put down on the
same chairs, and with the same fastenings, used with common
T rails.
The arrangements to manufacture are such that these rails
can be furnished of any American or Foreign make.
Reference is made to the officers of all the railroads in the
vicinity of Cincinnati.
Additional particulars and circulars may be had by address-
ing
E. W. STEPHENS,
Cincinnati, Ohio.

RAILROAD IRON & CHAIRS.

THE LACKAWANNA IRON AND COAL CO.
Are now prepared with increased facilities to contract for
RAILS AND CHAIRS
At their Works at SCRANTON, PENNA.
Address: J. H. SCRANTON, Pres't, at SCRANTON,
or, THEO. STURGES, Treas., 46 Exchange Place, New York.

RAILROAD IRON.

WOOD, MORRELL & CO.,
Having leased the extensive Works of the
Cambria Iron Company,
situated at JOHNSTOWN, CAMBRIA CO., PENNA.,
And purchased all their real estate,
Are now prepared to execute, at short notice, orders for
RAILS of any required pattern or weight, on the most
liberal terms.
Philadelphia Office, { North Penna. R. R. Building,
No. 407 Walnut st.

IRON BOILER FLUES.

Lap-Welded Boiler Flues,
1½ to 7 inches outside diameter, cut to definite
length, 2 to 20 feet as required.

Wrought Iron Welded Tubes,
From ½ to 5 inches bore, with Screw and Socket
Connections. T's, L's, Stops, Valves, Flanges,
&c., &c.

MANUFACTURED AND FOR SALE BY
MORRIS, TASKER & CO.,
PASCAL IRON WORKS.
Established 1821.
Warehouse—209 South Third st.,
PHILADELPHIA.

STEPHEN MORRIS, CHAS. WHEELER, JR.,
THOS. T. TASKER, JR. STEPHEN P. M. TASKER.

MORRIS & JONES & CO.,
IRON MERCHANTS,
MARKET AND SIXTEENTH STREETS,
PHILADELPHIA.
IRON AND STEEL
IN ALL THEIR VARIETIES.

BOILER PLATE, CAR AXLES,
BOILER RIVETS, RAILROAD IRON,
OUT NAILS and SPIKES, PIG IRON, etc.
Having the selling agency of a number of the Rolling Mills,
Furnaces and Forges in this State, orders for any description of
Iron can be executed.
August 16, 1854. 1y33

THE RAILROAD IRON MILL COMPANY, CLEVELAND, OHIO, MANUFACTURERS EXCLUSIVELY OF RAILROAD IRON.

THIS is a new ROLLING MILL, having been working
only eighteen months, and confined to work for roads on
this line between Buffalo and Chicago in re-rolling old Rails.
The capacity is Forty Tons per day. It is well situated for
receiving old Rails, either by Railroad or Lake.

Orders are now solicited

From Roads in other sections of the country; and work will
be made with New Iron in the heads, if desired.

Apply to

ALBERT G. SMITH,
President of the Incorporation.

February, 1855.

RAILROAD IRON.

The Crescent Manufacturing Company,
WHEELING, VA.,

ARE now prepared to execute, at short notice, orders for
RAILS of any required pattern and weight, and to re-roll
old rails, on the most liberal terms. Address
N. WILKINSON, Sec'y,
WHEELING, VA.

RAILROAD IRON.
CONTRACTS FOR RAILS,
AT A FIXED PRICE OR ON COMMISSION,
DELIVERED AT AN ENGLISH PORT,
Or at a Port in United States,
WILL BE MADE BY THE UNDERSIGNED,
THEODORE DEHON,
10 Wall st., near Broadway, New York.
500 tons T rails on hand 54 to 57 lbs. per linear yard.

RAILROAD IRON.
The undersigned, Agents for leading Manufacturers in
STAFFORDSHIRE AND WALES,
ARE PREPARED TO CONTRACT FOR DELIVERY
On board ship at Liverpool, or Welsh port.
C. CONGREVE & SON,
13 Old st., N. Y.

RAILROAD IRON.
The Undersigned, Agents for the Manufacturers,
ARE PREPARED TO CONTRACT TO DELIVER
Free on Board at Shipping Ports in England, or
At Ports of Discharge in the United States,
RAILS OF SUPERIOR QUALITY,
And of Weight or Pattern as may be required.
VOSE, LIVINGSTON & CO.,
New York. Aug. 1, 1855 9 South William Street.

RAILROAD IRON.
The Subscribers, Agents for the Manufacturers,
ARE PREPARED TO CONTRACT FOR THE
DELIVERY OF RAILROAD IRON AT ANY PORT
in the United States or Canada, or at a shipping port in Wales.
WAINWRIGHT & TAPPAN,
Boston, June, 1851. 29 Central Wharf.

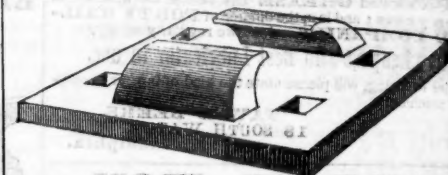
**RAILROAD IRON AND
COMMON BARS.**
THE UNDERSIGNED,
Sole Agents to Messrs. GUEST & CO.,
The Proprietors of the Dowlais Iron Works,
Near Cardiff, South Wales,
ARE duly authorized to contract for the sale of their G. L.
Railroad Iron, and Common Bars, on most advantageous
terms.
R. & J. MAXIN, 70 Broad st.

Railroad Iron.
300 TONS WELSH RAILS, Erie pattern, 56 lbs. to
the yard, in bond, or duty paid.
Also, RAILROAD SPIKES, LUBRICATING OILS,
METALS, and other RAILROAD MATERIALS for sale
by **DELAVERE & LOCKWOOD,**
June 1 1855 3m 45 Old st., New York.

NEW ENGLAND RAILROAD MUTUAL FIRE INSURANCE CO.

Office, No. 11 Railroad Exchange, Boston.
THIS Company, composed of Railroad Corporations, in-
sures on the Mutual principle, against loss by fire,
BUILDINGS, BRIDGES, ROLLING STOCK, and other
property in which the members have an insurable interest.

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GENERAL COMMISSION MERCHANT,
Nos. 6 & 8 Broadway, and 5 Beaver St.
ORDERS received for all sizes MERCHANT BAR and
RAILROAD IRON, AMERICAN and SCOTCH
PIG IRON, SUPERIOR WROUGHT IRON RAILROAD
CHAIRS, SPIKES, CAR WHEELS, NAILS, ETC., ETC.
OFFICE, 8 BROADWAY,
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MANUFACTURE
CAR AXLES,
AND EVERY DESCRIPTION OF
LOCOMOTIVE FORGINGS.
ALSO,
STEAMBOAT SHAFTS, CRANKS, TOBACCO SCREWS,
HAMMERED BAR IRON,
AND EVERY VARIETY OF
Forgings for Machinists' Use.

NOTICE TO Presidents, Directors and Gen. Superintendents OF RAILROADS.

I WISH TO INTRODUCE MY NEW PATENT
CAR BRAKE
which I claim to be the cheapest, strongest and most efficient
of any now in use. AND WILL AT MY OWN COST
PUT THE BRAKE ON ANY CAR OF A COMPANY
WHO WOULD DESIRE TO TEST ITS MERITS. All
those interested are invited to call at 61 Chambers st.,
where the model and specifications are to be seen.
6m26 **J. D'HOMERGUE.**

AMERICAN COAL CO.

GEORGE'S CREEK SEMI-BITUMINOUS COAL.
THIS Company is prepared to contract for the sale of their
coal, delivered on board vessels at the depots at Baltimore,
Georgetown and Alexandria, on the most favorable terms. The
coal is from the George's Creek basin, entirely free from slate,
and for steamers, locomotives and foundries is unsurpassed and
unequalled in quality by any coal brought to this market, ex-
cept that coming from the same basin.
The Company will procure vessels at the lowest rates, when
desired, without charge.
Orders for quantities less than a cargo, will be filled at the
yard of **RANDALL & MORRELL, Jersey City,** adjoining the
Cunard Wharf.
Office, 50 Exchange Place. **W. TITUS, Sec'y.**

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MERCHANTS and others doing business in the vicinity of the
Custom House, should patronize this well conducted es-
tablishment.
Every care will be taken to give satisfaction to the most fasti-
dious, and the proprietor feels confident in his ability to please
those of his friends and strangers who may favor him with a call.
THEODORE VAN RIPER, Prop'r.

H. H. GOODMAN & CO.,
No. 7 WALL ST., NEW YORK,
Dealers in Railway, City, County, and State
BONDS,
RAILS, LOCOMOTIVES, &c.
We have on hand and for sale, of County Bonds—
Hardin County (Ky), 6 per cts. Davidson O'ry (Tenn.), 6 p.cts.
Carter, Bath, and Montgom- Iowa County (Wis.), 8 per cts.
mary (Ky), 6 per cts. Mineral Point do. do.
Also a variety of CITY, COUNTY, and RAILWAY
SECURITIES in smaller lots.
April 30th, 1856.

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WILLIAMS & PAGE,
No. 44 Water, between Congress and Kilby Streets,
Boston, Mass.

**Iron Rails, Chairs, & Spikes,
FREIGHT AND COAL CARS,**
(on hand or made at short notice.)

**Wheels and Axles of all kinds,
LOWMOOR, AMES, BOWLING, AND NASHUA TIRES,
IRON AND STEEL,**
Of all kinds for Shops and Tracks.

Car Trimmings, Paints, Oil, Varnish, Car and Switch
Locks, Ventilators, Lanterns, Head-Lights, Gauges, Rubber
Springs, Chairs, Hose and Belting, Ash, Pine and other Tim-
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Railroads, Engines and Cars, at lowest prices.

THOS. N. WILLIAMS, **PHILIP S. PAGE,**
Late Supt Boston & Me. R. R. Late PAGE, ALDEN & Co.
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JAMES HAYWARD, President | **PHILIPS, DODGE & Co., N.Y.**
Boston and Maine R. R. | **COOPER, HEWITT & Co., do.**
Capt. Wm. H. SWIFT, Boston. | **KNEVES, BUCK & Co., Phila.**
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OLD STAND.
RAILROAD AND CAR FINDINGS.
A. BRIDGES & CO.,
SUCCESSORS TO BRIDGES & BRO.,

WILL continue the Railroad and Car Furnishing business,
and deal in Locomotive and Hand Lanterns, Enamelled
Head Lining, Brass and Silver Trimmings, Cotton Duck for Car
Covers, Portable Forges and Jack Screws, Bolts, Nuts and
Washers, Ship and Bridge Bolts, and Iron Forgings of almost
every description, etc., etc., at the OLD STAND,
64 COURTLAND ST., NEW YORK.
Orders for the purchase of goods on commission, aside
from our regular business, respectfully solicited.

ALBERT BRIDGES, { Of the late firm of
JOEL C. LANE. { BRIDGES & Bro.

F.W. Rhinelander, James A. Boorman, Edwin A. Post.
RHINELANDER, BOORMAN & CO.,
RAILWAY AGENTS
AND
COMMISSION MERCHANTS,
SUPPLY ALL MATERIAL AND ARTICLES USED IN THE
CONSTRUCTION AND OPERATING OF RAILWAYS.
BANK OF COMMERCE BUILDING, NEW YORK.

REFER TO
John A. Stevens, Esq., President Bank of Commerce.
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James Boorman, Esq., Messrs. Stillman, Allen & Co.
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K. JESUP & CO.,
No. 44 EXCHANGE PLACE,
RAILWAY AGENTS AND
COMMISSION MERCHANTS,
DEALERS IN FOREIGN AND AMERICAN
RAILROAD IRON,
HAVE FOR SALE ON COMMISSION
LOCOMOTIVE ENGINES,
PASSENGER AND FREIGHT CARS,
WROUGHT AND CAST IRON CHAIRS,
Spikes, Car Wheels, Axles, Tyres, etc.

S. B. BOWLES,
MANUFACTURER AND DEALER IN
**RAILROAD
SUPPLIES,**
No. 12 GOLD STREET,
(Between PLATT and MAIDEN LANE.)
NEW YORK.

A. S. & A. G. WHITON
72 PINE ST., NEW YORK,
DEALERS IN

**RAILROAD IRON,
CHAIRS AND SPIKES,
LOCOMOTIVES,
PASSENGER AND FREIGHT CARS.**

MANUFACTURERS' AGENTS
FOR Seller's Iron Turn Tables, Dimpfel's Patent Blower,
Gardiner's Volute Car Springs and

RAILWAY SUPPLIES GENERALLY.
ALSO
NEGOTIATORS OF SECURITIES.

GEO. M. FREEMAN,
SUCCESSOR TO
PRATT & FREEMAN,
PHILADELPHIA
RAILWAY SUPPLY AGENCY,
No. 123 WALNUT STREET,
PHILADELPHIA.

Railroad Materials, Locomotive and Car Findings,
MACHINERY AND MACHINISTS TOOLS,
MINERS' TOOLS, ETC.
COTTON WASTE. A
WHITE AND YELLOW CAR GREASE,
LOCOMOTIVE BRASS WORK,
Baggage Checks, Barrows, etc., etc.,
RAILROAD LANTERNS, SIGNAL LIGHTS,
STEAM GAUGES, COOKS AND WHISTLES,
INDIA RUBBER HOSE PACKINGS, ETC.
LANTERNS OF ALL DESCRIPTIONS,
ENGINE, STATION, AND SIGNAL BELLS,
Superior Car Upholstery, etc. A
AGENCY OF THE KEROSENE OIL COMPANY.
Orders solicited, promptly filled, and forwarded with
despatch and care at the manufacturers' lowest prices.

CINCINNATI.
HEWSON & HOLMES,
AUCTIONEERS AND STOCK BROKERS,
Have regular sales of Stocks, Bonds, and other Securities
EVERY
WEDNESDAY AND SATURDAY,
At 1 o'clock at the Merchant's Exchange,
AND IF REQUIRED,
SPECIAL SALES
ON MONDAY, TUESDAY, THURSDAY, AND FRIDAY.
OFFICES—Nos. 83 and 85 Walnut street.
Where they offer at private sale
A GREAT VARIETY OF
State, County, City and Railroad BONDS and STOCKS
NEGOTIATE
LOANS, NOTES, BILLS OF EXCHANGE,
AND COLLECT
DIVIDENDS, LEGACIES, DEBTS, &c.
REFERENCE—Ohio Life Insurance & Trust Company Bank

CINCINNATI STOCK EXCHANGE.
KIRK & CHEEVER,
Stock Brokers and Railroad Agents,
No. 83 WEST THIRD STREET,
CINCINNATI, OHIO.
Railroads Stocks, Bonds, &c., bought and sold on commission.
Regular sales at public auction at the MERCHANTS' EXCHANGE.

**FINAL SALE OF
LOTS!
IN
KENTUCKY CITY!**

On MONDAY, 27th day of
SEPTEMBER, 1858,
WILL commence the second and final Sale of Lots in this
growing and most interesting
YOUNG CITY.

The Trustees in announcing this Sale, feel warranted in as-
suring the public that at no point in the West can there be
found **EQUAL OPPORTUNITIES** for safe and
profitable investment.

KENTUCKY CITY

Is located on the east bank of the Mississippi, upon the near
est high land, (or above overflow), to the mouth of the Ohio
river, and for all practical business purposes, is, and will for-
ever be the mouth of the Ohio.

KENTUCKY CITY AND COLUMBUS contains
four thousand three hundred acres, laid off into lots, streets,
alleys, etc.; 500 acres in quarter and half lots; the remainder
in one, two, four, ten, twenty, forty and sixty acre lots. It is
from 4 to 210 feet above high water mark, and surrounded by
a high,

Healthy and Fertile Country,

Rapidly growing in wealth and population, with a salubrious
climate, and generous, liberal, enlightened and refined society.
There was wanted but one further feature to make this the most
commanding point, on the great "Father of Waters." This
was uninterrupted communication with the interior of the ad-
jacent States, to accommodate internal commerce and facilitate
the interchange of commodities. That want is now fully met
by the established system of

RAILROADS

Which has fixed **KENTUCKY CITY** as the center
of a net-work of Railroads stretching out and affording
connections in all directions with the interior and with the cities
and lakes of the North and East, and ramifying throughout
the whole South and West.

That the public may not be led off by suspicions that this is
a mere city on paper, we request you to enquire—to come and
see for yourselves.

See the MAP—**Kentucky City** is the northern termi-
nus of the Great Mobile and Ohio Railroad—460 miles long.
See also our railroad connection by Union City and along the
Nashville and North western Railroad via Paris and Clark-
sville to Nashville, 170 miles. Also, by Kenton and along the
Memphis and Ohio road to Memphis, about 160 miles. Also,
via Jackson, Tenn., Holly Springs, Canton and Jackson, Miss.,
to New Orleans, 500 miles. Also, via Corinth, thence along
the Memphis and Charleston Railroad to Tusculum, Hunts-
ville, Chattanooga, Knoxville and the East, and with Atlanta
and Savannah, Georgia. Also, by the Fulton and Texas Rail-
road via Little Rock, through Arkansas and Texas to the
Pacific Ocean.

Also, by the Iron Mountain Railroad to St. Louis, 150 miles.
Also, by the

STEAM FERRY PACKETS,

Plying to and fro with Cairo and the Illinois Central Railroad
to Chicago and the whole North-west.

Intelligent, enterprising and practical men who will come and
see and investigate in person, will be convinced that the extra-
ordinary commercial advantages and facilities of Railroad
and Steamboat Transportation possessed by **Ken-
tucky City** secures to this point requisites for manufactur-
ing and commercial purposes, which must, of necessity, cause
it speedily to become the great intermediate city between the
NORTH and the **SOUTH**, at which the productions and
manufactures of each section will be concentrated for sale, or
to be exchanged for those of the other.

The Hon. Post Master General, in a recent report, says:
"No man can look at the map of this country without his eye
finally resting on the mouth of the Ohio as the center of popu-
lation and commerce of the United States."

The sale is to be made without reserve, and in good faith,
and there will always be a reliable gentleman on the ground,
whose pleasure and duty it will be to give all needful informa-
tion, and answer all written or oral interrogatories. Then let
no one permit himself to be led off by rumor, when the facts
are so accessible to all.

Sale to commence—
Monday, September 27th, 1858
and continue until all the Lots are sold.

TERMS OF SALE.

Ten per cent, cash in hand, for the residue, a credit of one
and two years, with interest.

BEN EDWARDS GREY,
E. J. BULLOCK,
W. H. H. TAYLOR, } Trustees.

Address for full information,
FRANK JAY MCLEAN, Atty in law
Kentucky City, Ky.

THE ALBERT FREESTONE COMPANY

SUPPLY THE BEAUTIFUL

Buff-Colored Freestone

WHICH enters into a large number of the finest Buildings recently erected in New York, Baltimore, Philadelphia, Portland, Halifax, Norfolk, St. John, etc. They also furnish the SAME STONE of a BROWN COLOR with a ROSE TINGE. Orders will be taken for any point on the Atlantic Seaboard or for Inland Cities.

Directors: JOHN TRAVERS, CHARLES E. ANDERSON, JOSEPH FOWLER, SAMUEL P. DIXMORE, M. DUDLEY BRAN, GEORGE E. COOK, WILLIAM H. DUNOAN, HENRY V. POOR.

JOHN TRAVERS, Esq., Pres't; CHARLES E. ANDERSON, Esq., Vice Pres't; JOSEPH FOWLER, Esq., Treas'r; SAMUEL P. DIXMORE, Secretary.

Offices: 15 NASSAU ST., (Commonwealth Building,) N. York. Communications by Mail should be addressed to the Secretary.

Manager of the Quarries—CAPT. GEO. LANG, Harvee, New Brunswick.

"The great beauty of this stone commended it to our committee; the stone is universally admired."—*Pennsylvania R.R. Co.*

"No sulphur of iron in it."—*Francis Alger, Esq., Boston.*

Average resisting power to the square inch 6,632 lbs.—more by 3,110 lbs. than any other Freestone in use.—*Hafield's Tests.*

"Is without grain or cleavage."—*T. Burdall, Engineer, Birmingham, Eng.*

"Coming to be the favorite material."—*N. Y. Times.*

"Finest Freestone in N. America."—*The late J. G. Percival.*

"Surfaces of this Freestone, for ages exposed to the weather, have perfectly withstood the action of water and frost."—*Professor C. T. Jackson, Boston, Mass.*

"It has a color unsurpassed, one of the neutral tints which harmonizes with everything in nature, and is equally pleasant to the eye in fair day or foul, and whether the building has a background of sky, water or foliage."—*N. Y. Express.*

"It contains no scale of mica, no carbonate of lime."—*F. Alger.*

"A grand building stone."—*New York Evening Post.*

"Beyond doubt the very best material we have ever seen in this country."—*John Struthers, Philadelphia.*

"Frost, snow and ice of the severest winters have no effect upon it."—*John Whiteleaf, Baltimore.*

"Light, agreeable and cheerful color, and gives a pleasant aspect to our streets. Retains its uniformity of color."—*Professor C. T. Jackson, Boston, Mass.*

"I greatly admire your beautiful Freestone, and only regret that the Building to which I have devoted so much of my time and means, was not built of it."—*Peter Cooper, Esq., N. York.*

"Must not be confounded with any other stone from the British Provinces."—*Company's Circular.*

"A monopoly of the very best building material in the world."—*Professor J. L. Hayes Washington, D. C.*

WATERBURY BRASS AGENCY,

ALEX. ANDERSON, AGENT.

59 BEEKMAN STREET, NEW YORK,
FOR THE SALE OF

SHEET BRASS,
COPPER AND BRASS WIRE,
BRASS AND COPPER TUBING,
COPPER RIVETS AND BURS, ETC.
Manufactured at WATERBURY, Conn.

PROSSER'S PATENT LAP-WELDED IRON BOILER TUBES, SAFE FROM END TO END.

EVERY article necessary to DRILL THE TUBE-PLATES and to SET THE TUBES in the best manner. Tubes CLEANERS, Steel-Wire and Whalebone BRUSHES. Tubes for ARTESIAN WELLS. Pump Shafts, Line Shafts, conveying Steam or Water, etc., etc. SCREWED TOGETHER, FLUSH ON BOTH SIDES, or WITH COUPLINGS either outside or inside; also EXPANDED INTO FLANGES.

PATENT SURFACE CONDENSER.

AGENTS FOR
KRUPP'S CELEBRATED CAST-STEEL
for SHAFTS, RAILWAY AXLES, TIRES, PLATES, ROLLERS, RIFLE AND GUN BARRELS, CANNON, &c.
THOMAS PROSSER & SON,
28 PLATT ST., NEW YORK.

Railroad Iron.

700 TONS, about, or in store, of "W. Crawshaw's" make. For sale by

THEODORE DEHON,
10 Wall St., near Broadway,
New York.

Railroad Iron.

1,000 TONS Railroad Iron, weighing about 55 lbs. per yard, "Erie" pattern, of best quality Welsh make, now ready for delivery, for sale by

VORSE, LIVINGSTON & CO.,
9 South William St.
August 1st, 1857.

RICHARD B. COWLEY,
MANUFACTURING JEWELER,
3 1/2 Division St., 3rd floor, City of New York.
MASSONIC, Sons of Temperance and Odd Fellows Lodge
Jewels, from new patterns and dies, made to order and constantly on hand.
All orders promptly attended to. On 22

RAILROADS AND STEAMBOATS.

FOR BOSTON AND PROVIDENCE via NEWPORT and FALL RIVER.—The splendid and superior steamer METROPOLIS, Capt. Brown, leaves New York every TUESDAY, THURSDAY and SATURDAY, at 6 o'clock P.M., and the BAY STATE, Capt. Jewett, on MONDAY, WEDNESDAY and FRIDAY, at 5 o'clock P.M.; from Pier No. 3, N. R., near the Battery; both touching at Newport each way.

Hereafter no rooms will be regarded as secured to any applicant until the same shall have been paid for.

Freight to Boston is forwarded through with great dispatch by an Express Freight Train.

WM. BORDEN, Agent, Nos. 70 and 71 West st.

The REGULAR MAIL LINE

VIA STONINGTON, for BOSTON and PROVIDENCE
—Inland route—the shortest and most direct, carrying the Eastern Mail.

The steamers PLYMOUTH ROCK, Capt. Joel Stone, and C. VANDERBILT, Capt. W. H. Frazee, in connection with the STONINGTON & PROVIDENCE and BOSTON & PROVIDENCE RAILROAD, leaving New York daily (Sundays excepted) from Pier No. 2, North River, first wharf above Battery Place, at 6 o'clock P.M., and Stonington, at 8 1/2 P.M.; or on the arrival of the mail train which leaves Boston at 5.30 P.M.

The C. VANDERBILT, from New York Monday, Wednesday and Friday; from Stonington Tuesday, Thursday and Saturday.

The PLYMOUTH ROCK, from New York Tuesday, Thursday and Saturday; from Stonington Monday, Wednesday and Friday.

Passengers proceed from Stonington per railroad to Providence and Boston in the Express Mail Train, reaching said places in advance of those by other routes, and in ample time for all the early morning lines connecting North and East. Passengers that prefer it remain on board the steamer, enjoy a night's rest undisturbed, breakfast if desired, and leave Stonington in the 7 A.M. train for Providence and Boston.

A baggage master accompanies the steamer and train through each way.

For passage, berths, state rooms or freight, apply on board the steamer, or at the Freight Office, Pier No. 2 North River, or at the office No. 10 Battery Place.

RAILROAD MAPS, THE BEST "GUIDE" IN THE WORLD, FOR SALE AT THIS OFFICE.

Price of Pocket Edition, by mail, pre-paid. \$1.00
" Mounted on Rollers. 3.00
" " " Colored in Counties. 5.00

RAILROADS.

NEW YORK & NEW HAVEN R. R.

1858. SUMMER ARRANGEMENT. 1858.
Commencing May 13, 1858.

Passenger station in New York, corner 27th st. and 4th av.; entrance on 27th st.

TRAINS LEAVE NEW YORK

For New Haven, 7, 8 A.M. [ex.]; 12.45, 3.45, 4.20 [ex.], and 5.30 P.M. For Bridgeport, 7, 8 A.M. [ex.], 12.45, 3.45, 4.20 [ex.], and 5.30 P.M. For Milford, Stratford, Fairfield, Southport and Westport, 7 A.M.; 12.45, 3.45, 5.30 P.M. For Norwalk, 7, 9 A.M.; 12.45, 3.45, 4.20 [ex.], 4.45, 5.30, 6.30 P.M. For Darien and Greenwich, 7, 9 A.M.; 12.45, 3.45, 4.45, 5.30, 6.30 P.M. For Stamford, 7, 8 [ex.], 9 A.M.; 12.45, 3.45, 4.20 [ex.], 4.45, 5.30, 6.30 P.M. For Port Chester and intermediate stations, 7, 9 A.M.; 12.45, 3.45, 4.45, 5.30, 6.30 P.M.

CONNECTING TRAINS.

For Boston, 8 A.M. [ex.], 4.20 P.M. [ex.]. For Hartford and Springfield, 8 A.M. [ex.], 4.20 P.M. [ex.]. For Connecticut River Railroad to Montreal, 8 A.M. [ex.], and 4.20 P.M. [ex.], to Northampton. For Canal Railroad to Northampton, 8 A.M. [ex.], and 12.45 P.M. For Housatonic Railroad, 8 A.M., 4.20 P.M. For Naugatuck Railroad, 8 A.M., 12.45 and 3.45 P.M. For Danbury and Norwalk Railroad, 7, 9 A.M., 4.20 P.M.

JAMES H. HOYT, Sup't.

NEW JERSEY RAILROAD.

For Philadelphia and the South and West,
VIA JERSEY CITY.

MAIL and Express Lines leave New York at 8 and 11 A.M., and 4 and 6 P.M.; fare \$3; 11 and 4 go to Kensington. Through Tickets -old for Cincinnati (\$17 and \$18.50) and the West, and for Baltimore, Washington, Norfolk, etc., and through baggage checked to Washington in 8 A.M. and 6 P.M. trains.

W. WOODRUFF, Assistant Sup't.

No baggage will be received for any train unless delivered and checked fifteen minutes in advance of the time of leaving.

New York and Erie R. R.

On and after Monday, May 10, 1858, and until further notice

PASSENGER TRAINS
will leave Pier foot of Duane street,
as follows, viz:—

DUNKIRK EXPRESS, at 6 A.M. for Dunkirk and principal intermediate stations.
MAIL TRAIN, at 8 A.M., for Dunkirk and Buffalo, and intermediate stations.

ROCKLAND PASSENGER, at 3 P.M., from foot of Chamber st., via Piermont, for Suffern's and intermediate stations.

WAY PASSENGER, at 4 P.M., for Newburgh, Middletown and intermediate stations.

NIGHT EXPRESS, at 5 P.M. for Dunkirk and Buffalo.

The above trains run daily, Sundays excepted.

These Express Trains connect at Elmira, with the Elmira, Canandaigua and Niagara Falls Railroad, for Niagara Falls; at Binghamton with the Syracuse and Binghamton Railroad, for Syracuse; at Corning with Buffalo, Corning and New York Railroad, for Rochester; at Great Bend with Delaware, Lackawanna and Western Railroad, for Scranton; at Hornellsville with the Buffalo and New York City Railroad, for Buffalo; at Buffalo and Dunkirk with the Lake Shore Railroad; at Cleveland, Cincinnati, Toledo, Detroit, Chicago, etc.

CHARLES MORAN, President.

HUDSON RIVER R. R.

FROM May 10th, 1858, Trains will leave Chambers street station as follows: Express Trains, 6 A.M., and 5 P.M.; Albany and Troy Passenger Train, 11 1/2 A.M. and 10 P.M.; for Dobbs' Ferry, 6 1/2 A.M. and 4 P.M.; for Tarrytown, 7 P.M.; for Sing Sing, 10 1/2 A.M. and 3 P.M.; for Poughkeepsie, 8 A.M., 1 P.M. and 3 1/2 P.M.; for Peekskill 5 1/2 P.M. The Poughkeepsie, Peekskill, Sing Sing, Tarrytown and Dobbs' Ferry Trains stop at the Way stations. Passengers taken at Chambers, Canal, Christopher and Thirty-first streets. Trains for New York leave Troy, at 4 1/2 and 10 25 A.M., and 4 1/2 and 9 1/2 P.M.; and Albany, at 4 1/2 and 10.55 A.M., and 4.05, 4.45 and 3 1/2 P.M.; on Sundays, at 9 1/2 P.M.

A. F. SMITH, Sup't.

U. S. MAIL AND EXPRESS ROUTE DIRECT FOR Iowa, Kansas and Nebraska.

CHICAGO, BURLINGTON & QUINCY RAILROAD.

THE ONLY DIRECT ROUTE FROM
CHICAGO TO AURORA, MENDOTA, PRINCETON, GALESBURG, QUINCY, BURLINGTON, ANY PART OF SOUTHERN OR CENTRAL IOWA, KANSAS OR NEBRASKA.

PASSENGER TRAINS leave the Central Depot, foot of South Water street, Chicago, daily as follows:—

9.45 A.M.—MORNING EXPRESS.—Connecting at Mendota with Illinois Central Railroad, north for Amboy, Dixon, Galena and Dunleith, south for La Salle, Bloomington, Decatur, Springfield, Jacksonville, St. Louis, Cairo, &c.; at Galesburg with Northern Cross R.R. for Quincy, &c.; and at Burlington with Burlington and Missouri River R.R., and with Packets for points up and down the Mississippi river.

8.45 P.M.—EVENING EXPRESS.—Making same connections as above.

NO TRAIN SATURDAY EVENING.

ONE TRAIN SUNDAY, 8.45 P.M.

BAGGAGE CHECKED THROUGH TO BURLINGTON and QUINCY.

THROUGH TICKETS can be procured at all the principal eastern railroad offices and in Chicago at the Depot and at the Michigan Central R. R. office, corner of Lake and Dearborn streets, opposite the Tremont House.

SAM'L POWELL, Gen. Ticket Agent. O. G. HAMMOND, Gen. Sup't.

Philadelphia, Wilmington & Baltimore Railroad.

UNITED STATES MAIL ROUTE TO THE SOUTH AND WEST.

Trains will leave the Southern and Western Station, corner Broad and Prime streets, Philadelphia, at 8.30 am, 12.45, 3.11 pm.

FARE BY THROUGH TICKETS TO THE SOUTH.

From New York	Wilmington	\$15.50
do	Norfolk	8.50
From Philadelphia	to Wilmington	14.00
do	do	6.50
do	Norfolk	9.00
do	Petersburg	8.00
do	Richmond	5.00

FARE BY THROUGH TICKETS TO THE WEST.

From New York	to Cincinnati	\$17.00
do	do	19.00
From New York	to Indianapolis	19.00
From Philadelphia	to Cincinnati	16.00
do	do	18.00
do	Louisville	18.00

An extra charge will be made for meals and state rooms on board the boat. GEORGE A. PARKER, Sup't.